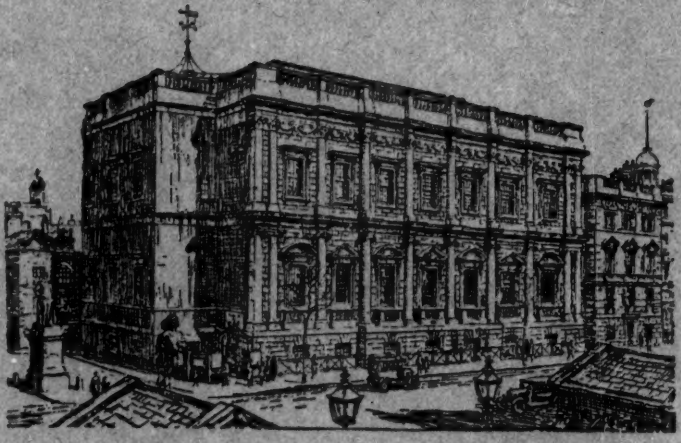
NOVEMBER 1957

JOURNAL



Royal United Service Institution

WHITEHALL, LONDON, S.W.1

ALL RIGHTS RESERVED

PUBLISHED QUARTERLY

Price Ten Shillings

Advertisement Manager

A. W. G. BARRETT, 27 CHANCERY LANE, W.C.2. Telephone: HOLBORN 8655-6

Harnessing the atom

Life-boats aren't driven by atomic power. They are kept going solely by voluntary contributions. Nearly a million pounds a year are needed: send your contribution, no matter how small, to:—

An English Coxswain

ROYAL NATIONAL LIFE-BOAT INSTITUTION

42, GROSVENOR GARDENS, LONDON, S.W.1

Treasurer: His Grace The Duke of Northumberland. Secretary: Col. A. D. Burnett Brown, O.B.E., M.C., T.D., M.A.

The socks for comfort

Men can't appreciate the comfort of Two Steeples 83 Socks until they have worn them. These socks, with the red tops have been famous since 1895. Made of the highest grade wool they are most comfortable and long wearing.

per pair 10/6d.

'Fernia' knitwear in shades to match.

Two Steeples

The Name for Quality

83 SOCKS

HIGH SPLICED NYLON HEELS & TOES

If unable to obtain write Dept. M. 44, Two Steeples Ltd., Wigston, Leicestershire.

?

WHAT

are your plans for

CIVILIAN LIFE

Write for a free booklet

CIVILIAN CAREERS

How to Prepare Yourself for Industry and Commerce

CAREERS CONSULTANTS Ltd.

29 CORK ST., PICCADILLY, W.1

SCHOOL BILLS

IF you are looking ahead and wish to be sure of your children's education and maintenance even if you yourself should die—

IF you wish to spread the cost over as long a period as possible—

IF you wonder how you are ever going to meet the cost at all—

IF you would like to save a substantial part of the cost — AND PARTICULARLY

IF you are serving in

The NAVY,
The ARMY, or
The AIR FORCE

AND THEREFORE NEED SPECIAL ADVICE ON PROVISION FOR YOUR CHILDREN'S EDUCATION

you should write to

THE SCHOOL FEES INSURANCE AGENCY, LTD.
10, QUEEN STREET, MAIDENHEAD, BERKS.

A firm of insurance consultants who specialize in the solution of these problems and offer sensible advice free.

PS.

IF you are glad to be needing to plan like this, and

IF you would care to help children less fortunate,

then please send a donation to
The Treasurer,
National Spastics Society,
28 Fitzroy Square, W.1.

or we will gladly forward it for you

ARMY WIRELESS SET TYPE C12

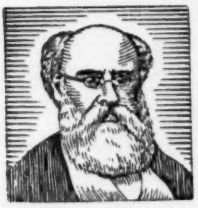
The Army Wireless Set Type C.12 designed and manufactured by Pye Ltd., Cambridge to replace their world famous Wireless Set No. 19, has been adopted by the War Office for use in roles beyond the capabilities of the new VHF equipment.

Pye Ltd., specialize in the design and production of military mobile radio equipment. Their well-known wartime range of sets is continued in peacetime by the WS 62, still in quantity production for the War Office and many overseas Armies.

PYE TELECOMMUNICATIONS LTD · NEWMARKET ROAD · CAMBRIDGE
Phone: Teversham 3131 Cables: Pyetelecom Cambridge

MAKE WRITING
YOUR OTHER BUSINESS

Enjoy the Security of an EXTRA Income



ANTHONY TROLLOPE

MOST successful Writers did not begin their working lives as Authors. Thousands of Stories and Articles are by people who write in addition to their regular occupation. They write for the deep pleasure of writing; for the security an additional income provides. Writing gives young people another string to the bow; enables retired folk to capitalise their experiences.

TROLLOPE'S ADVICE

TROLLOPE, who made a large income for many years by writing, began in this way. He advised all young writers to follow his example and there are many who have succeeded in building up their own separate or private business in this way, but there are not enough.

GREAT OPPORTUNITIES EVERY DAY

OVER 1,300 Daily and Weekly Newspapers, and more than 2,000 magazines and periodicals in Great Britain alone, means at least 100,000 separate issues per year requiring articles, stories, etc., a large proportion of which has to be free-lance work. Here are immense and permanent markets for capable Writers, with opportunities never greater than now—new publications appearing, the public reading more than ever, and British Editors constantly on the lookout for new Writers. Anyone of average education and ability, willing to learn the technique of preparing written matter in saleable form, has great opportunities of profitable and continuous spare-time employment, which can lead to well-paid full-time occupation.

PRACTICAL HELP BY EXPERT DIRECTION

FLEET STREET SCHOOL gives modern practical instruction which enables the new Writer to produce work in the form wanted by busy Editors (who have no time to teach the novice) and guides the learner to the markets best suited to his personal ability. The continued success of our students is striking proof for the new practical methods of the Advisory Panel of Fleet Street Authors and Editors, whose qualifications as Professional Experts are indicated below.

THE PANEL OF EXPERTS

1. Author of over 1,000 Short Stories. 2. Editor of a best-selling Women's Magazine. 3. A prolific Writer of Serials in famous English journals. 4. The Writer of popular Girls' Stories. 5. Regular Contributor of all the best-selling Juvenile Periodicals. 6. Feature Writer to Sunday Newspapers. 7. Sub-Editor of National Daily.

YOUR FIRST STEP.—Write now for Free Copy of "PROSPECTS FOR AUTHORSHIP" and learn how to acquire the Professional touch and essential Marketing knowledge. Remember, the Fleet Street School system is based on earning whilst learning, and special terms are available for those of limited means.

PRACTICAL RESULTS

Student 171/162.—I have sold my story to **EVERYWOMAN** for 25 guineas. *Student* 1106/156.—The **B.B.C.** accepted the script for the Light Programme—fee 9 guineas—after my first lesson! *Student* 141/76.—The article which I wrote for the Second Test Paper appeared in the **SUNDAY MAIL**. Thanks for the recommendation. *Student* 2317/185.—I am pleased to say that my article for Lesson Two has been accepted by the magazine **TRAVEL**. *Student* 2003/1610.—The Course has already borne fruit, for I have sold an article to **PSYCHOLOGY** for 2 guineas. *Student* 1834/152 . . . together with cheque, which I obtained from the **CHRISTIAN HERALD** for the article which I originally wrote for the Second Test Paper. *Student* 761/2812.—I have just sold my first story to **FAMILY STAR** for 4 guineas, and am I thrilled! *Student* 473/28.—I have had my first short story accepted by the Editor of **HOME REVIEW**. *Student* 1437/217.— . . . on your advice I sent my article with a covering letter to the **LIVERPOOL ECHO** and barely three weeks had elapsed before I had the pleasure of seeing it in print. *Student* 1328/2110.—**GLAMOUR** have paid me 7 guineas for a short story and the **B.B.C.** has accepted a fairy story, to be adapted for the Children's Hour. *Student* 984/227.—I also have to report the sale of a further fairy story to the Co-operative Press, for inclusion in their **SUNSHINE ANNUAL**, payment 2 guineas. *Student* 1518/69.—**MODERN WOMAN** have paid 5 guineas on acceptance of my article. *Student* 181/282.—You may be interested to hear that yesterday I had a letter from the Editor of the **ARGOSY**—they have offered me 25 guineas for my story. *Student* 3577/3015.—I have had my story accepted by **BLACKWOODS**, who are paying me £25 for it; also one or two others, at smaller rates, of course, for service magazines. *Student* 120/28/8.—I have established contact with the Editor of **PUNCH**. The item was accepted for Charivaria and is a good start. *Student* 591/28/7.—I am sure you will be pleased to know that my article submitted for my Second Lesson was published in the **DAILY MIRROR** and I received 6 guineas for same. *Student* 848/129.—I hope you will be as pleased as I am that my article, submitted for Test Paper Two, has been sold, on your advice, to **MEN ONLY**. *Student* 1954/157.—I have just corrected a proof of my story for **WIDE WORLD**—they have since accepted another and I have sent in a third. *Student* 778/2119.—I thought it might interest you to know that **THE COUNTRYMAN** has accepted a short article of mine on an old country custom. *Student* 820/1310.—I had 7 guineas for my story, which appeared in **WOMAN'S COMPANION**; I also had an article published recently in **FARMER AND STOCKBREEDER**. *Student* 4135/7150.—I have sold an article to the **COVENTRY EVENING TELEGRAPH**—they are sending me a cheque for 5 guineas. *Student* 184/315.—As you suggested, I submitted the article to the **NEW STATESMAN**. One was published on July 17. *Student* 1404/6/5/49.—I am pleased to tell you that the article which I wrote for Test Paper Two and submitted, on your recommendation, to **CHILDREN'S NEWSPAPER**, was accepted. *Student* 988/226.—The magazine which accepted my story was **RED STAR WEEKLY**—they paid me 4 guineas. *Student* 1173/55.—The article has been accepted by **LONDON OPINION**, having earned 4 guineas. *Student* 1813/173.—My story was published in the June issue of **ARGOSY** and I have just had a letter from the Editor offering me 8 guineas for a second one. *Student* 187/43.—I have sold my first short story prepared for Lesson Eight to **HOME NOTES** for 12 guineas. *Student* 281/7411.—The paper which accepted my article written for Lesson Two, was the **BELFAST TELEGRAPH**. *Student* 5921/347.—Last week I sent to **COURIER** a graphic account of my first elephant shoot in Kenya. They have retained the story and asked for another.

POST COUPON TO-DAY FOR YOUR FREE COPY

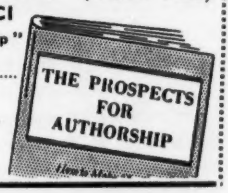
To THE FLEET STREET SCHOOL LTD (Desk A.52)
1 & 2 Fulwood Place, High Holborn, London WC1

Please send without obligation "Prospects for Authorship"

NAME .....
(Please write in BLOCK CAPITALS)

ADDRESS .....

.....
(Stamp for reply appreciated but not essential)



The firing of a Bristol/Ferranti Bloodhound.

BLOODHOUND COMPLETE DEFENCE SYSTEM ADOPTED AS MAINSTAY OF UK AIR DEFENCE

Bristol/Ferranti guided missile system now tested, proved and in full production

The Bloodhound will become the mainstay of the United Kingdom's defence network as surface-to-air missiles progressively take over from the manned fighter.

It is a complete missile system, designed to be linked with existing radar.

Bloodhounds and their Bristol Thor-type ramjets have reached an extremely high stage of development. The system has already proved its effectiveness and is in production for the Royal Air Force.

As an indication of the scale of Bristol's guided weapons programme it is—with the sole exception of the Britannia airliner—the largest single activity of the Bristol Group of Companies.

BRISTOL

Bloodhound

BRISTOL AIRCRAFT LIMITED

ELECTRONIC GUIDANCE AND CONTROL BY FERRANTI LIMITED

TOYS and CHILDREN'S PARTIES

Christmas time . . .

children's toys, stockings and the Christmas tree all combine to make a child's Christmas one to remember. If you will visit your Naafi shops you will see a wonderful range of Christmas toys and Festive Fare. Naafi are specialists in catering for all occasions and will help you when planning your children's parties.

NAAFI

The official canteen organisation for H. M. Forces

IMPERIAL COURT · KENNINGTON LANE · LONDON · S.E.11

Westland WESSEX

The Wessex is the first helicopter in the world to go into production powered by a free-turbine engine. During the first flight of the prototype earlier this year it was airborne for sixty-five minutes. Subsequently it has made a series of successful test flights of varying duration.

The free-turbine engine gives the Wessex advantages of supreme economic and operational importance:

It enables the helicopter to be airborne from a cold start within 45 seconds.

It uses the same fuel as jet aircraft, thus eliminating the necessity to store two types of fuel on airfields and aircraft carriers.

It reduces the noise element inherent in piston-engined helicopters to an unobtrusive purr.

It reduces vibration to the minimum, which means less wear on components, and greater comfort for passengers and crew.

The compactness and light weight of the engine allow for increased payload.

The Wessex has been ordered for the Royal Navy for anti-submarine duties. It is powered by a single Napier Gazelle free-turbine engine.

WESTLAND

The Hallmark of British Helicopters

WESTLAND AIRCRAFT LIMITED · YEOVIL · ENGLAND

For rapid earthmoving . . .

Earthmoving Equipment is only one aspect of the organisation which supplies the world with printing machines, cement plant, power station plant and capital equipment of many kinds . . . great liners and tankers, aircraft carriers and submarines . . . outstanding passenger aircraft like the VISCOUNT and military aircraft like the four-jet VALIANT.

Development in civil and highway engineering calls for faster methods of earthmoving, and the Vickers Vigor Tractor is designed for this purpose. Together with a range of matched equipment it provides the greater earthmoving efficiency essential for profitable operation. Distributed by Jack Olding & Co. Ltd., the Vigor is the answer to the urgent need for improved performance on development projects everywhere.

VICKERS-ARMSTRONGS

VICKERS-ARMSTRONGS LIMITED VICKERS HOUSE BROADWAY LONDON SW1
TGA VA22

Life Assurance

The uses of Life Assurance are not confined to protection for widows and children, though this must always be the main object (as no man is ever beyond the risk of matrimony !) Policies properly arranged are also the best possible investments ; they relieve anxiety as to finance for educating children ; they provide for future house purchase and for old age. *The selection of Company and type of Policy requires skilled and unbiased advice.*

In most cases, Income Tax is reduced by 17% of the Premiums, which is equivalent to a subsidy of 20·45% on your Net Outlay. This is a primary factor in making Life Assurance such a profitable investment.

Unless there is a present intention of flying as air crew, Policies can be obtained at NORMAL CIVILIAN PREMIUMS, and these Policies are World-Wide and unrestricted, fully covering War and Flying Risks.

The sooner you start a Policy to achieve a desired result, the lower the Premiums, and delay always involves the risk of ill-health. Therefore, the right time to act is NOW.

Existing Policies which contain restrictions or charge extra Premiums (of which the Officer may be unaware) can usually be dealt with to his advantage, as can those with Companies who pay low rates of Bonus. I recommend that all existing Policies should be sent to me for inspection.

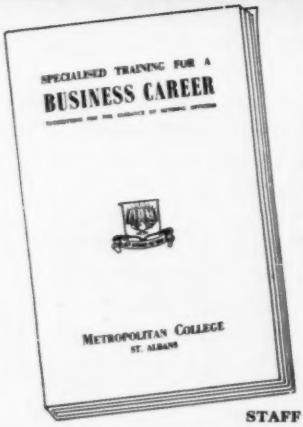
I am not tied to any Company, and my advice is completely unbiased. I accept no fees in any circumstances, as I rely on the usual Commission from Companies on Policies arranged through my Agency. I ask that my letters be treated as personal and confidential, and that resulting Proposals be passed to me. My advice does NOT commit an Officer in any way.

I also arrange General Insurance of all kinds, such as Personal Accidents, Winter Sports, Motor Cars, Household, and All Risks Cover for Personal Effects and Valuables (in Europe 15/-% as against 25/-% normally charged).

Brigadier R. T. WILLIAMS (R. T. Williams, Ltd.)

69–70 EAST STREET, BRIGHTON **Telephone : Brighton 23056**

METROPOLITAN COLLEGE



OFFICERS who contemplate a professional or business career on early retirement are invited to obtain a copy of the Metropolitan College brochure "Specialised Training for a Business Career - Suggestions for the Guidance of Retiring Officers" which will be sent post free on application. It contains helpful information on

SECRETARYSHIP—ACCOUNTANCY—LAW—COST ACCOUNTANCY — MARKETING — PERSONNEL MANAGEMENT — B.A., B.Sc., B.Sc. (Econ) and LL.B. (London) DEGREES, INTENSIVE (non-exam.) COMMERCIAL TRAINING.

✧ ✧ ✧

Also expert postal coaching for the ARMY PROMOTION AND STAFF COLLEGE ENTRANCE EXAMS.

● *Write TODAY for a copy of the College Business or Military Prospectus and/or advice, stating the examination or civilian career in which interested, to the Secretary, M4, Metropolitan College, St. Albans.*

ST. ALBANS

The lifeline of communication...

• More than fifty civil airlines and over thirty air forces fit Marconi radio, radar or navigational aids. Airports all over the world rely on Marconi ground installations • The armed services have entrusted radar defence networks, both at home and overseas, to Marconi's • The broadcasting authorities of 75% of the countries of the world operate Marconi broadcasting or television equipment • 80 countries have Marconi equipped radio telegraph and communications systems • All the radio approach and marker beacons round the coasts of Britain have been supplied by Marconi's.

SYSTEM PLANNERS,
ELECTRONIC ENGINEERS,
DESIGNERS AND MANUFACTURERS
OF AERONAUTICAL, BROADCASTING,
COMMUNICATION AND MARITIME
RADIO EQUIPMENT,
TELEVISION EQUIPMENT,
RADAR AND NAVIGATIONAL AIDS

MARCONI

on land, at sea and in the air

MARCONI'S WIRELESS TELEGRAPH COMPANY LIMITED, CHELMSFORD, ESSEX, ENGLAND
LG6

THE ARMY, NAVY & GENERAL Assurance Association Ltd.

has, since 1900, specialised in the insurance requirements of Officers in H.M. Services. It transacts all forms of insurance, except life, and has a well-deserved reputation for prompt and generous claims settlements.

Its Directors know, from personal experience, of the insurance problems peculiar to Service life, and the Association therefore conducts its business with a special understanding of the requirements of Serving and Retired Officers.

Directors :

Vice-Admiral Sir Sydney Raw, K.B.E., C.B., *Chairman.*

Lieut.-General Sir Giffard Martel, K.C.B., K.B.E., D.S.O., M.C. ; R. F. Hayward, M.C., Q.C. ; Captain W. H. Coombs, C.B.E., R.N.R ; H. V. Bishop ; A. R. Johnson, A.C.I.I.

Head Office :

Trafalgar House, Waterloo Place, Pall Mall, London, S.W.1.
Telephone : WHItehall 9917.

City Office :

Loyalty House, 7, Ship Tavern Passage, Lime Street, London, E.C.3.
Telephone : MANsion House 8681.

Branches :

Aldershot. Ballymena, Northern Ireland. Colchester.

Officers' Kit, Comprehensive Householders, Personal Accident, Motor, Fire, Burglary, Marine, etc.

This ready-made jacket in Harris, Scotch or Shetland tweeds, costs from **10 guineas**
Terylene and wool trousers **£7 2 6** and **£7 12 6**
Light, soft, corded fur felt cap. Beige or olive green **33 6**

Gieves
LIMITED
ESTABLISHED 1785
Service and Civilian Tailors and Outfitters
27 OLD BOND STREET LONDON W1
Telephone: HYDe Park 2276

BY APPOINTMENT
TO H.M. THE QUEEN
PICTURE DEALERS

THE PARKER GALLERY

FOUNDED 1750

WRITE FOR OUR SPECIAL CHRISTMAS CATALOGUE

(Post free)

To :—

2, Albemarle Street,
London, W.1

Phone : GROSVENOR 5906-7

The Outstanding Cigarette of the Day

SENIOR SERVICE *Satisfy*

TOBACCO AT ITS BEST

WELL MADE · WELL PACKED

GLENDINING & CO., LTD.

Specialists in the

SALE BY AUCTION

of

NAVAL & MILITARY MEDALS & DECORATIONS

Valuations for Insurance and Probate at recognised rates

Expert advice immediately available for intending sellers and buyers without charge or obligation

Subscription rate for Sale Catalogues — 5s. 0d. per annum

Further information may be obtained from the Auctioneers at their Offices and Galleries

at

7, Blenheim Street,
New Bond Street, London, W.1
(Telephone: MAYfair 0416)

ARE YOU GOING TO RETIRE?

The official announcement that some 7,000 Officers are shortly to be prematurely retired has given many cause for anxiety about their future.

Under such circumstances one's personal problems can easily appear overwhelming. Independent expert advice can, however, help put them into proper perspective. So far as employment is concerned, much is being done to give advice through official channels.

A number of officers have, however, come to consult me about the financial implications and, for them, I have made personal appreciations on which to base logical plans of action, suited to each individual's case.

Questions of house purchase, investments, whether to commute part of one's retired pay, implications of income tax, estate duties and children's education, all come within the scope of these well-known appreciations of mine.

I can do one for you too without any obligation. Just drop a line to —

COLONEL D. S. E. WEST, O.B.E., M.C.

Insurance Broker and Mortgage Consultant.

92 EBURY STREET, LONDON, S.W.1

THE DENHOLM-YOUNG OFFICERS' CIVIL LIFE ADVICE BUREAU

(Colonel C. P. S. Denholm-Young, O.B.E., F.C.C.S.)

What will you do when you retire?

Have you considered how much easier it will be to find employment or an occupation *if you start preparing for it now*?

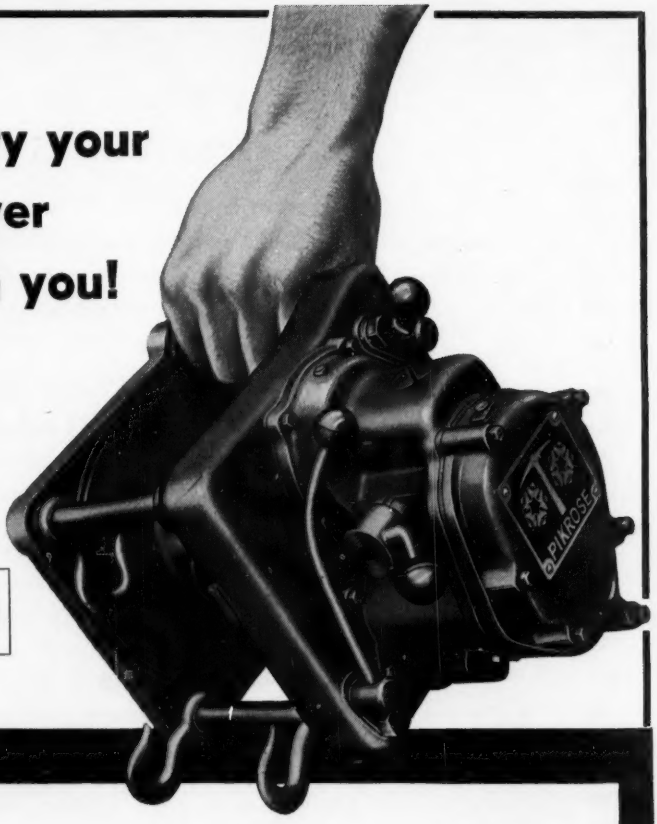
Sound advice is available for a very moderate fee.

RETIRED OFFICERS ALSO CATERED FOR

Write now for details

29 CORK STREET,
PICCADILLY, LONDON, W.1
Tel: REGent 1079

Carry your power with you!



Announcement of the **ZERO SIZE**

PIKROSE PORTABLE LIGHTWEIGHT HOIST

Single Drum—Single Speed—Non-reversible compressed air hoist. This is the latest and smallest of the PIKROSE Range of Compressed air HOISTS. As a tool it is easy to handle—easy to operate, simplifies and "speeds up the job" . . . It can save time, money and man-power in a hundred applications in as many trades.

SPECIFICATION

NORMAL ROPE PULL: at 80 p.s.i.—1,650 lb.
AVERAGE ROPE SPEED: 60 ft.p.m.
MOTOR OUTPUT: 3 h.p.
DRUM CAPACITY: 330 ft. of ¼ inch Diameter Rope 80% Calculated Value.

AHI12

AUSTIN HOPKINSON & CO., LTD., DELTA WORKS, AUDENSHAW, LANCASHIRE

FIREFLASH

The only British air-to-air guided weapon that is in service with the R.A.F. now — proved, lethal and available.

THE FAIREY AVIATION COMPANY LTD
HAYES · MIDDLESEX

ENGLAND · AUSTRALIA · CANADA

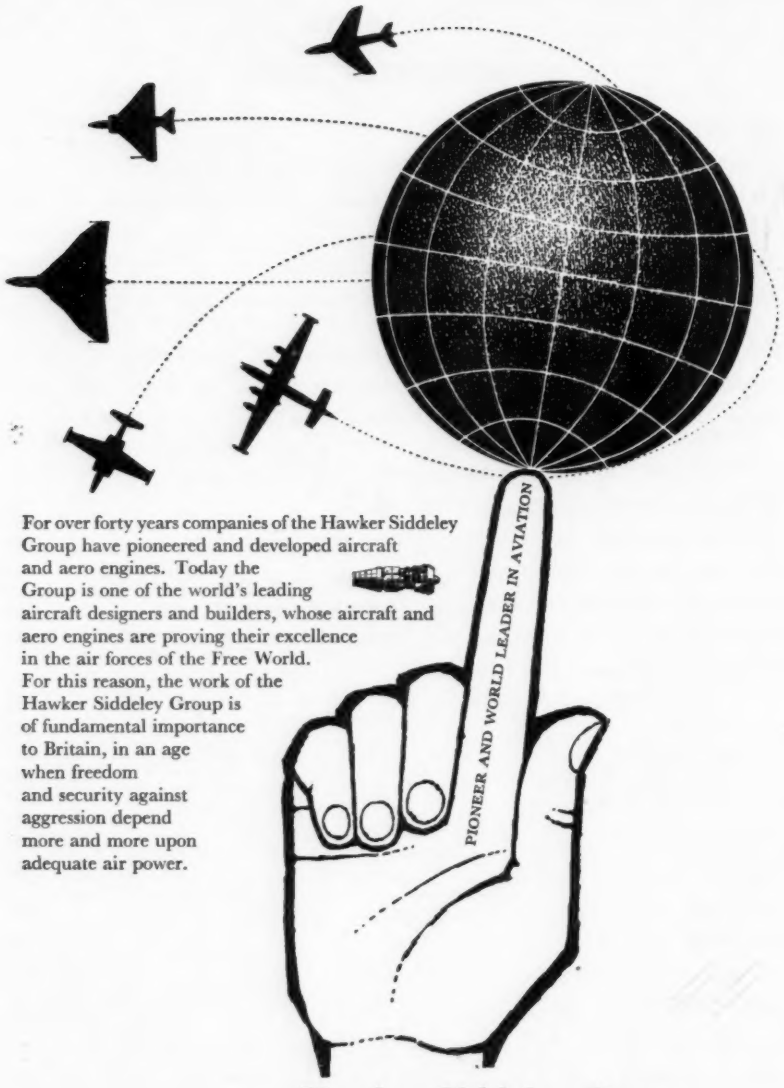
CONTENTS

NOVEMBER, 1957

	Page
Secretary's Notes	xv
Frontispiece : A Corner of the Banqueting Hall, Royal United Service Institution.	
The United States Naval Academy (*Lecture*). By Admiral Walter F. Boone, U.S.N. ...	463
Strategy in the Nuclear Age. By Michael Howard	473
On Fatigue. By Major-General B. T. Wilson, C.B., D.S.O.	483
Pattern for Limited (Nuclear) War : The Riddle of the Schlieffen Plan. Part I. By Captain G. C. Wynne	488
Missile Weapons and the Future. By Admiral E. Biörklund, Royal Swedish Navy (Retd.)	500
A Prisoner of the Confederates. By Air Vice-Marshal W. M. Yool, C.B., C.B.E. (Retd.)	510
Trench Gascoigne First Prize Essay, 1956. By Wing Commander J. E. T. Haile, R.A.F. (Retd.)	516
" Quarter-Bloke." By Major Reginald Hargreaves, M.C.	531
Sir Clowdisley Shovel's Last Passage. By G. J. Marcus	540
The Army Cadet Force. By Captain W. F. L. Newcombe, O.B.E., T.D.	549
The Indian Mutiny and After. By " Hafiz "	556
Letters from the Crimea—IV. By Assistant-Surgeon Arthur Henry Taylor	564
Blake and de Ruyter. By Commander W. B. Rowbotham, R.N. (Retd.)	571
The International Situation. By Aidan Mackey	
(i) The Changing of the Guard	580
(ii) Syria	580
(iii) Cyprus	581
(iv) Malaya and Singapore	582
(v) The Free Trade Area	583
Correspondence	585
General Service Notes	589
Navy Notes	591
Army Notes	596
Air Notes	604
Reviews of Books	607
Additions to the Library	624
Index to Volume CII	iii

NOTE

Authors alone are responsible for the contents of their respective papers, which do not necessarily reflect official policy or opinion in any way.



For over forty years companies of the Hawker Siddeley Group have pioneered and developed aircraft and aero engines. Today the Group is one of the world's leading aircraft designers and builders, whose aircraft and aero engines are proving their excellence in the air forces of the Free World. For this reason, the work of the Hawker Siddeley Group is of fundamental importance to Britain, in an age when freedom and security against aggression depend more and more upon adequate air power.

Hawker Siddeley Group

18 St. James's Square, London, S.W.1.

A. V. ROE • GLOSTER • ARMSTRONG WHITWORTH • HAWKER • ARMSTRONG SIDDELEY HAWKSLEY • HAWKER SIDDELEY NUCLEAR POWER • AIR SERVICE TRAINING • TEMPLEWOOD ENGINEERING • HIGH DUTY ALLOYS *and in Canada:* AVRO AIRCRAFT • ORENDA ENGINES CANADIAN STEEL IMPROVEMENT • CANADIAN CAR AND FOUNDRY • CANADIAN STEEL FOUNDRIES

JOURNAL

of the

Royal United Service Institution

Published by Authority of the Council

ALL RIGHTS RESERVED

Postal Address: Whitehall, London, S.W.1.

Telephone No.: Whitehall 5854

Telegraphic Address: "Russatus, Parl, London."

Vol. CII NOVEMBER, 1957 No. 608

Advertisement Manager

A. W. G. BARRETT, 27, CHANCERY LANE, LONDON, W.C.2

Telephone: HOLBORN 8655/6.

THE ROYAL UNITED SERVICE INSTITUTION

FOR

THE PROMOTION AND ADVANCEMENT OF THE SCIENCE AND LITERATURE OF THE THREE SERVICES

PATRON

HER MAJESTY THE QUEEN

PRESIDENT

Field-Marshal H.R.H. The DUKE OF GLOUCESTER, K.G., K.T., K.P., G.C.B., G.C.M.G., G.C.V.O.

VICE-PRESIDENTS

Field-Marshal The Viscount ALANBROOKE, K.G., G.C.B., O.M., G.C.V.O., D.S.O.

Field-Marshal Sir CLAUDE AUCHINLECK, G.C.B., G.C.I.E., C.S.I., D.S.O., O.B.E., LL.D.

Admiral of the Fleet The Earl of CORK AND ORRERY, G.C.B., G.C.V.O.

Marshal of the Royal Air Force Sir EDWARD ELLINGTON, G.C.B., C.M.G., C.B.E.

General The Lord ISMAY, K.G., P.C., G.C.B., C.H., D.S.O., D.L.

Admiral Sir CHARLES J. C. LITTLE, G.C.B., G.B.E.

Marshal of the Royal Air Force The Lord NEWALL, G.C.B., O.M., G.C.M.G., C.B.E., A.M.

Field-Marshal The Lord WILSON OF LIBYA, G.C.B., G.B.E., D.S.O.

ELECTED MEMBERS OF COUNCIL

Royal Navy

Vice-Admiral Sir AUBREY MANSERGH, K.B.E., C.B., D.S.C.

Admiral Sir HENRY MOORE, G.C.B., C.V.O., D.S.O.

Admiral Sir GEOFFREY OLIVER, G.B.E., K.C.B., D.S.O. (*Chairman of the Council*)

Admiral of the Fleet Sir ARTHUR J. POWER, G.C.B., G.B.E., C.V.O.

Royal Marines

Lieut.-General Sir CAMPBELL R. HARDY, K.C.B., C.B.E., D.S.O., R.M.

Royal Naval Reserve

Commodore R. HARRISON, D.S.O., R.D., R.N.R.

Royal Naval Volunteer Reserve

Captain C. P. C. NOBLE, D.S.C., V.R.D., R.N.V.R.

Regular Army

General Sir GEORGE ERSKINE, G.C.B., K.B.E., D.S.O., A.D.C. (*Vice-Chairman of the Council*)

General Sir RICHARD N. GALE, G.C.B., K.B.E., D.S.O., M.C.

General Sir CAMERON G. G. NICHOLSON, G.C.B., K.B.E., D.S.O., M.C.

General Sir HUGH C. STOCKWELL, K.C.B., K.B.E., D.S.O.

Territorial Army

Bt. Colonel J. A. T. BARSTOW, D.S.O., T.D.
Brigadier H. P. CROSLAND, C.B., C.B.E., M.C., T.D., D.L.
Major-General I. T. P. HUGHES, C.B., C.B.E., D.S.O., M.C., D.L.
Brigadier J. A. LONGMORE, C.B., C.B.E., T.D., D.L.

Royal Air Force

Air Chief Marshal Sir NORMAN BOTTOMLEY, K.C.B., C.I.E., D.S.O., A.F.C.
Air Chief Marshal Sir WALTER L. DAWSON, K.C.B., C.B.E., D.S.O.
Air Chief Marshal Sir LESLIE HOLLINGHURST, G.B.E., K.C.B., D.F.C.
Air Chief Marshal Sir JAMES M. ROBB, G.C.B., K.B.E., D.S.O., D.F.C., A.F.C.

Royal Auxiliary Air Force and Royal Air Force Volunteer Reserve

Group Captain Sir ARCHIBALD HOPE, Bart., O.B.E., D.F.C., R.Aux.A.F.

REPRESENTATIVE MEMBERS

ADMIRALTY

Director of Tactical and Staff Duties : Captain G. W. HAWKINS, R.N.

WAR OFFICE

Director-General of Military Training :

AIR MINISTRY

Assistant Chief of Air Staff (Training) : Air Vice-Marshal Sir GEORGE D. HARVEY, K.B.E., C.B., D.F.C.

EX OFFICIO MEMBERS

First Sea Lord : Admiral of the Fleet The Earl MOUNTBATTEN OF BURMA, K.G., P.C., G.C.B., G.C.S.I., G.C.I.E., G.C.V.O., D.S.O.

Chief of the Imperial General Staff : Field-Marshal Sir GERALD W. R. TEMPLER, G.C.B., G.C.M.G., K.B.E., D.S.O.

Chief of the Air Staff : Air Chief Marshal Sir DERMOT A. BOYLE, G.C.B., K.C.V.O., K.B.E., A.F.C.

Director, Territorial Army and Cadets : Major-General M. M. A. R. WEST, C.B., D.S.O.

President of the Royal Naval College, Greenwich : Vice-Admiral Sir GEOFFREY BARNARD, K.C.B., C.B.E., D.S.O.

Commandant of the Imperial Defence College : Admiral the Hon. Sir GUY H. E. RUSSELL, G.B.E., K.C.B., D.S.O.

Commandant of the Joint Services Staff College : Major-General P. N. WHITE, C.B., C.B.E.

Director of the Royal Naval Staff College : Captain A. R. HEZLET, D.S.O., D.S.C., R.N.

Commandant of the Staff College, Camberley : Major-General J. H. N. POETT, C.B., D.S.O.

Commandant of the R.A.F. Staff College, Bracknell : Air Vice-Marshal S. C. ELWORTHY, C.B.E., D.S.O., M.V.O., D.F.C., A.F.C.

HONORARY MEMBERS OF THE COUNCIL

Major-General G. R. TURNER, C.B., M.C., D.C.M., C.D. (Canada).
Lieut.-General A. J. BOASE, C.B.E. (Australia).
Major-General Sir A. H. RUSSELL, K.C.B., K.C.M.G. (New Zealand).
General Sir PIERRE VAN RYNEVELD, K.B.E., C.B., D.S.O., M.C. (South Africa).
General K. M. CARIAPPA, O.B.E. (India).
General MOHD. AYUB KHAN (Pakistan).

STAFF

Secretary, Chief Executive Officer, and Curator : Lieut.-Colonel P. S. M. WILKINSON.
Librarian and Assistant Editor : Brigadier J. STEPHENSON, O.B.E.
Editor : Lieutenant-Commander P. K. KEMP, R.N.
Deputy Curator and Assistant Executive Officer : Captain J. H. LAING.
Assistant Librarian : Mr. T. J. HOLLAND.

Auditors : Messrs. BARTON, MAYHEW & Co.
Alderman's House, Bishopsgate, E.C.2.

Bankers : ROYAL BANK OF SCOTLAND, DRUMMOND'S BRANCH,
Charing Cross, S.W.1.

THE INSTITUTION

The Institution is situated opposite the Horse Guards in Whitehall. It provides members with a comfortable reading room containing the leading papers, periodicals, and principal Service (including foreign) Journals.

There is a lecture theatre where lectures are given followed by discussions in which officers of every rank are encouraged to take part.

Members can obtain on loan four volumes at a time from the best professional library in the Country. They are provided with a free copy of the JOURNAL.

There is a private entrance to the celebrated R.U.S. Museum in the former Banqueting House of old Whitehall Palace.

MEMBERSHIP

Commissioned officers on the active and retired lists of all H.M. Services, including those of the Dominions and Colonies, also midshipmen of the Royal and Dominion Navies, the R.N.R., R.N.V.R., and R.N.V.S.R. are eligible for membership without formality.

Retired officers of the Regular and Auxiliary forces, including the Home Guard, whose names no longer appear in the official lists, are eligible for membership by ballot.

Ladies whose names appear or have appeared in the official lists as serving or having served as officers in any of the three Services are eligible as above.

Naval, military, and air force cadets at the Service colleges are eligible on the recommendation of their commanding officers.

Officers' messes are not eligible for membership, but may subscribe to the JOURNAL.

SUBSCRIPTION

The rates of subscription are :—

	£	s.	d.	
Annual subscription	1	10	0	
Life subscription	24	0	0	.
or four yearly instalments of	6	6	0	each
Covenanted life subscription—seven yearly instalments of ...	3	12	0	,,

Full particulars of membership with alternative forms for bankers' orders, and for deeds of covenant enabling the Institution to recover income tax, can be obtained on application to the Secretary, Royal United Service Institution, Whitehall, S.W.1.

The JOURNAL is published in February, May, August, and November. Copies may be purchased by non-members, price 10s. 0d. each (10s. 6d. by post), or £2 yearly (£2 2s. 0d. by post). Orders should be sent to the Secretary, Royal United Service Institution, Whitehall, S.W.1.

MUSEUM

The R.U.S. Museum is open daily from 10 a.m. to 5 p.m., except on Sundays, Christmas Day, and Good Friday. Members may obtain free passes for their friends on application to the Secretary.

Members of the Services in uniform are admitted free.

SECRETARY'S NOTES

November, 1957

ROYAL PATRON

The oil painting of Her Majesty The Queen by Commander Denis Fildes, R.N. (Retd.), has now been hung in the entrance hall to the Institution.

STAFF

The Council have made the following appointments :—Lieutenant-Commander P. K. Kemp, R.N., formerly Assistant Editor, as Editor of the JOURNAL from 1st September, 1957, and Brigadier J. Stephenson, O.B.E., as Assistant Editor of the JOURNAL from the same date in addition to his appointment as Librarian.

ACKNOWLEDGMENT

Two life Members of the Institution, who joined many years ago when the subscription was low, have very kindly made a voluntary donation of a similar sum. The offers were made in view of the greatly increased costs since those days and they have been gratefully accepted.

NEW MEMBERS

The following officers joined the Institution between 13th July and 9th October, 1957 :—

NAVY

Rear-Admiral Sir Anthony W. Buzzard, Bart., C.B., D.S.O., O.B.E.

ARMY

Captain A. P. Armstrong, R.A.P.C.
Lieut.-Colonel I. D. Forsyth, Royal Artillery.
Lieut.-Colonel H. E. Hardingham, Natal Mounted Rifles.
Lieutenant T. D. Kenyon, The Royal Welch Fusiliers.
Major G. N. Powell, The Queen's Bays.
Lieutenant S. Atkins, R.A.S.C., A.E.R.
Lieutenant J. H. C. Hordern, The Royal Warwickshire Regiment.
Major E. N. Ford, M.C., The Buffs.
Captain P. L. J. Groves, 14th/20th King's Hussars.
Lieutenant J. A. MacAulay, The Seaforth Highlanders of Canada.
Major P. J. H. Vickers, 3rd Carabiniers.
Major R. W. J. Smith, The Middlesex Regiment.
Major E. J. Williams, Princess Patricia's Canadian Light Infantry.
Captain D. R. Black, R.A.S.C.
Captain N. L. Williams, The Loyal Regiment.
Captain I. F. Gregory, R.A.O.C.
Captain R. M. Sellers, R.C.A.S.C.
Lieut.-Colonel A. J. Turner, M.B.E., M.C., Royal Engineers.
Captain J. D. Blackwell, Royal Tank Regiment.
Captain W. A. L. Young, The Green Howards, T.A.

AIR FORCE

Squadron Leader R. F. Hitchcock, A.F.C., R.A.F.
Section Officer P. M. Wallace, W.A.A.F. (Retd.).
Flying Officer R. Woodhouse, R.A.F.
Squadron Leader W. A. Hammond, R.A.F.
Flight Lieutenant J. R. Morris, R.A.F.

PRIZE MEMBERSHIP

Sub-Lieutenant B. N. Wilson, R.N., Electrical Sub-Lieutenant T. J. Sullivan, R.N., and Pilot Officer E. J. Walter, R.A.F., have been awarded five years' free membership of the Institution.

COVENANTED SUBSCRIPTIONS

The Council hope that many more members will support the scheme for covenanted subscriptions, details of which have been circulated.

This materially assists the Institution as it enables income tax at the full current rate to be reclaimed on each subscription and goes a long way towards meeting the increased essential costs of administration.

To date, there are 1,309 annual and 229 life covenanted members.

Any member who has not received his copy of the scheme or who requires new forms is requested to communicate with the Secretary.

LIAISON OFFICERS

The following alterations to the list of Liaison Officers, as published in February, have taken place :—

Command or Establishment	*Name*
Coastal Command	Group Captain J. R. Armitstead, D.F.C.
Transport Command	Wing Commander R. P. S. Wyrill.

MUSEUM

Additions

The Orders, Decorations, and Medals of Air Vice-Marshal Sir Vyell Vyvyan, K.C.B., D.S.O. (1875–1935) (3735). Deposited by Mrs. R. T. Vyvyan.

A Plaque depicting the Badge of the Royal Indian Navy, 1947 (9721). Given by The Royal Indian Navy (1612–1947) Club.

An Officer's Full Dress Helmet, Royal Marine Artillery, 1896 (9722). Given by Miss M. K. Waldron.

JOURNAL

Offers of suitable contributions to the Journal are invited. Confidential matter cannot be used, but there is ample scope for professional articles which contain useful lessons of recent wars ; also contributions of a general Service character, such as strategic principles, command and leadership, morale, staff work, and naval, military, and air force history, customs, and traditions.

The Editor is authorized to receive articles from serving officers, and, if found suitable, to seek permission for their publication from the appropriate Service Department.

Army officers are reminded that such articles must be accompanied by the written approval of the author's commanding officer.

LECTURES

It was regrettably necessary to cancel the lecture on 2nd October by Lieut.-General Sir John Glubb owing to his sudden illness. General Glubb is well again and has agreed to give his lecture in January.

The programme of lectures for the second half of the 1957–58 session is published with this number of the Journal. Although information about tickets and reserved seats is always published in the programme, a good many requests for this information are being received. Will members to whom this may refer please avoid the unnecessary work and expense, especially in view of increased postal charges.

CHANGE OF ADDRESS

Members are particularly requested to notify any change of address which will affect the dispatch of the JOURNAL. Naval officers are strongly advised to keep the Institution informed of their address as JOURNALS sent to them via C.W. Branch of the Admiralty are invariably greatly delayed.

As a serving officer is liable to frequent changes of station, it is better for such members to register either a permanent home or a bank address.

POSTAL SERVICE BY AIR MAIL

In order to keep the annual membership subscription to the lowest possible rate it is not economic in normal circumstances for the Institution to send letters, etc., overseas by air mail. Members who require answers by this service should enclose the necessary international reply coupons when making an enquiry.

CHRISTMAS CARDS

Orders for Christmas cards, specially designed for members of the Institution, can still be placed.

Card A has the crest of the Institution on the outside and inside a reproduction of a black and white sketch of Vanbrugh House in Whitehall Yard, the first home of the Institution. The price, including envelopes, is 12s. a dozen.

Card B is a reproduction in colour of " Portsmouth Harbour showing H.M.S. Victory under tow (c.1830)," inside is the crest of the Institution. The price, including envelopes, is 20s. a dozen.

Postage and packing in each case is 10d. for each dozen by ordinary mail.

Members are requested to ensure that the correct remittance, including postage, is sent with their orders. It is regretted that *orders cannot be executed until payment is made.*

Sample cards can only be sent against a remittance of 1s. 2d. for the A type and 1s. 10d. for the B.

A CORNER OF THE BANQUETING HALL
IN THE MUSEUM OF THE ROYAL UNITED SERVICE INSTITUTION

A CORNER OF THE BANQUETING HALL
IN THE MUSEUM OF THE ROYAL UNITED SERVICE INSTITUTION

THE JOURNAL
of the
Royal United Service Institution

Vol. CII. NOVEMBER, 1957. No. 608

THE UNITED STATES NAVAL ACADEMY

By Admiral Walter F. Boone, U.S.N.

On Wednesday, 10th April, 1957, at 3 p.m.

Admiral Sir Henry Moore, G.C.B., C.V.O., D.S.O., in the Chair

The Chairman: Speaking on behalf of the R.U.S.I. I am sure that I can say how very pleased we are to have with us Admiral Walter F. Boone. He has his headquarters in London, but as Commander-in-Chief of the American forces on this side of the Atlantic and in the Mediterranean I think that his jurisdiction runs more or less from Iceland to Burma at the moment.

This is not the first time that he has been in London by a long chalk; he has worked with us in many different appointments. He and I served together in the Home Fleet during the 1939–45 War and he has since been here many times. His particular reason for being here today is that his last appointment in America was that of Superintendent of the Naval Academy at Annapolis, which is the opposite number to our Dartmouth, so that he now speaks with absolute authority. Without more ado I will ask him if he will talk to us.

LECTURE

I WAS deeply complimented to be invited by Admiral of the Fleet Sir Arthur Power to lecture here, and I feel quite at home with your Chairman, Admiral Sir Henry Moore, under whom I served in the Home Fleet during the war. He was greatly admired and respected by all of us in the American carrier task force. We soon learned not to be misled by the softness of his voice.

This is a notable first for me—the first time that I recall having been invited back to speak a second time. I had the honour of lecturing to this membership in 1948, but I suppose that the programme chairman had forgotten that appearance.

My previous topic was "Roles and Missions of the Navy." This time, having recently completed a tour as Superintendent of our Naval Academy, certainly the most rewarding experience of my naval career, I elected to talk about that Institution. I felt that this might be timely inasmuch as the Royal Navy's approach to the education and training of midshipmen has recently undergone a major change.

In a way I am sorry that I did not elect to talk again about the roles and missions of navies. I might have done so without fear of repetition, since the means for projecting sea power and exploiting its unique advantages are changing so rapidly that the subject takes on a new look almost by the month. The fundamental roles and missions remain the same, but the tactics, techniques, equipments, and capabilities have vastly changed since 1948. It is like the experience of the man who revisited

his college Economics class 20 years after graduation—the questions were the same but the answers entirely different.

The scientific revolution now taking place in our Navy, while increasing its strike capability almost beyond comprehension, has also introduced countless new complexities, which in turn have placed far greater demands upon the men who man our ships and aircraft. Naval officers of the future must be both scientist and sailorman, and this brings me back to my subject—the United States Naval Academy.

I propose to discuss the mechanics of the operation for a while and then to take refuge in showing you a film titled *The Annapolis Story*, which will convey to you the atmosphere and colour of the life of our midshipmen far better than I could possibly put these things into words.

Each June, approximately 1,200 of the finest youth of our country, ages 17 to 22, enter the United States Naval Academy at Annapolis, Maryland, a colonial city situated on the Chesapeake Bay at the mouth of the Severn River, some 30 miles east of Washington. These young men, for the most part, are winners of competitive examinations leading to appointments by Members of Congress, but many come from other sources such as the enlisted ranks, the Naval Reserve, sons of Medal of Honour winners, and sons of men killed in action.

It is customary for the Superintendent to assemble the new class for instruction and guidance. One Superintendent opened his talk by saying, " I want each one of you to turn and look hard at the young gentleman on your right : now to your left. Each of you should remember these two classmates, because by the time your class is ready to graduate four years from now, one of the three of you will not be here."

Four years after entering, approximately 72 per cent. of each class are graduated with a Bachelor of Science degree, and are commissioned in the Navy, the Marine Corps, or, temporarily for the present, the Air Force. These graduates are fully qualified mentally, morally, and physically to assume the duties and responsibilities of a junior officer in these Services.

Last month, when I visited your Britannia Royal Naval College at Dartmouth, the Commanding Officer expressed surprise at this high attrition rate. He seemed to regard it as wasteful. On the contrary, we feel that this weeding-out process is a healthy thing. It is not a goal that we seek, but our experience tells us that, despite our best instructional and indoctrinational efforts, we may expect that about 28 per cent. of each class will fail to meet the high standards in academic work, conduct, and general aptitude, or, for personal reasons, will separate themselves by voluntary resignation.

In the quarters of the Commandant at Annapolis there hangs a portrait of Alexander Slidell Mackenzie, the only man ever to have hanged a midshipman. In a negative sense Mackenzie might be said to have been responsible for the founding of our Naval Academy.

In 1841, before the Naval Academy was established, there was a student at Union College named Phillip Spencer. Historians say, " at Union College, young Spencer had achieved an unenviable reputation for misbehaviour and a singular addiction to piratical adventure, a trait which his friends generously construed as mere boyish waywardness." But, like many another troublesome youth of that day, Spencer was hustled off into the Navy, to be disciplined and cured. In those days prospective naval officers received their training entirely in ships.

In the fall of 1842 we find Midshipman Spencer in the fast brig *Somers*, 10 guns, *en route* to Africa with dispatches; Commander Alexander Slidell Mackenzie commanding.

Two weeks out on the return voyage, the ship's officers reported to the captain that there was a conspiracy afoot, led by Spencer. The principals, it was said, planned to murder the captain and officers, seize the ship, take her to the Isle of Pines, and from there operate as pirates.

The captain at first discounted the report, but under pressure he had Spencer seized and placed in irons. A search of Spencer's effects produced evidence which appeared to support the charge. Some of this was in the form of papers containing Greek characters (Spencer had founded a Greek letter fraternity at Union College). There was a Court of Inquiry, and on 1st December, 1842, Phillip Spencer was hanged at the yardarm for intended mutiny.

When the ship arrived in New York just two weeks later there was great public excitement and indignation over the proceedings. It so happened that Spencer was the son of the Honourable John Spencer, Secretary of War, and nephew of Captain William A. Spencer, a respected officer in the United States Navy. There was a move to try Mackenzie for murder, but this did not materialize. Instead, he was court-martialled on a lesser charge and was acquitted, but he was never promoted after that and soon died.

This unhappy episode started a storm of criticism of the training methods in our Navy, culminating in the founding of the United States Naval Academy on its present site on 10th October, 1845.

Nowadays, when the Commandant entertains midshipmen in his quarters, he likes to stand them before Mackenzie's portrait and say " Gentlemen, not since his day have we hanged a midshipman, but there are several cases now pending which might require similar punishment."

The United States Naval Academy is the Navy's undergraduate college. It provides four years of basic education and professional training, laying the foundation for future professional development through experience, reading, post-graduate study at leading civilian universities, and attendance at the various military colleges for advanced study, such as our Naval War College, National War College, and, in a few cases, foreign institutions such as your Imperial Defence College.

The student body, known as the Brigade, now numbers about 3,800 at the beginning of each year, but falls off through attrition to an average strength of approximately 3,600 for the year.

The physical plant at the Naval Academy proper comprises some 219 major buildings situated in 245 acres of ground. Activities in direct support of the Naval Academy include the naval station, a small craft facility with about 150 sailing and power craft, an air facility operating about 45 training aircraft, a naval hospital, and a dairy producing approximately one quart of milk a day for each midshipman. As Superintendent I found myself responsible for the welfare and contentment of some 550 cows, and the appropriate number of bulls, and two goats —the Navy mascot Billy XIV and his understudy.

Organizationally the Naval Academy is divided into three major sub-divisions: (1) the administration (2) the academic department which teaches both general and professional subjects, and (3) the executive department which provides the living

accommodation for midshipmen and is responsible for discipline, military indoctrination, character building, and the teaching of certain subjects as I shall indicate.

The curriculum at Annapolis is an extensive one. It totals about 25 per cent. more semester hours than colleges usually require for a Bachelor degree. It may be broken down into four general areas :—

Forty-nine per cent. devoted to the sciences and engineering studies: mathematics, chemistry, physics, mechanics, electrical engineering, electronics, and the nuclear theory.

Twenty-four per cent. devoted to the social humanities : economics, government, English literature, speech, and a choice of one of six foreign languages, the only elective element in the curriculum.

They tell a story about a Polish midshipman, Joe Pawlewski, who was having great difficulty in French. Joe was a fine, big, husky boy—good athlete and very popular—but he just could not learn French. Finally, his instructor said in exasperation one day : " Mr. Pawlewski, you will never learn to speak French until you learn to *think* in French."

Joe replied, very sheepishly : " Gosh, Professor, I still have to think in Polish and translate into English."

Twenty-four per cent. allotted to professional military subjects, such as aviation, ordnance, seamanship, navigation, naval machinery, naval tactics and operations, naval construction, and ship stability.

The remaining three per cent. is devoted to physical education, which includes survival, physical development, personal defence, methods of conditioning exercise, recreational sports, and athletic administration (i.e. the teaching and officiating of sports).

This is in addition to participation in intramural and intercollegiate sports competition, which is required of every midshipman who is not temporarily ill or unsatisfactory in his studies.

Our curriculum is fixed. It is an integrated curriculum in which courses support each other to a high degree and which is sharply focused toward a uniform end-product. In addition to the academic department curriculum, there is the training and instruction carried on during the cruises aboard ships of the fleet, and other training activities, scheduled for two months in the summer of each year ; and also the instruction carried on by the executive department in such fields as traditions and customs of the naval service, naval leadership, the uniform code of military justice, naval organization, administration, regulations and general orders, personal finances, hygiene, etiquette, etc.

There is a growing aviation influence in the curriculum. We believe that in the modern Navy of today it is as necessary for an officer to know about aircraft as about ships.

The academic faculty numbers some 270 officers and 200 civilian instructors. The incidence of academic degrees is exceptionally high, and we are proud, indeed, of the calibre of our civilian faculty.

Classes are small, averaging only about 14 to 15. Extra instruction is made available on a relatively personalized basis for those having difficulties in academic work, and there is also extra training for overcoming physical weaknesses.

Of equal importance to the academic side is that of preparing the young man morally and temperamentally for a military career. The Commandant of midshipmen, who is second in command and who heads the executive department, is the officer immediately responsible for character development. Our objective is to instill in each midshipman the qualities of honour, integrity, leadership, decisiveness, forcefulness, aggressiveness, and physical fitness so necessary in the military officer, and to engender a deep-rooted desire to serve his country in a military career.

The discipline is rigid. It has been said that " discipline is the soul of the fleet." We believe that the officer candidate must learn self-discipline before he is competent to discipline others. He must learn ' followship ' before leadership. He must learn to live by accepted rules and standards in a military society.

The first-year midshipman, whom we call a plebe, is indoctrinated by both officers and upper-class midshipmen. A plebe is required always to be ' at attention, as we say—braced up, shined up, and in full uniform—whenever he is out of his room. Participation in athletics, of course, is an exception. At the mess table he sits erect on the edge of his chair, facing straight ahead, and speaks only when spoken to. He walks at attention and turns square corners. He uses the ' ladders,' not the elevators (lifts). He is required to say " Sir " to all upper-classmen, and salutes everything that moves plus a few things that do not. This indoctrination is regarded by some as being rather severe, but it is noteworthy that no one who has ever been through this plebe year indoctrination has ever recommended *afterwards* that it be abolished.

Under the discipline system a limiting number of demerits is prescribed for each year, the number becoming progressively less. Exceeding the limit prescribed usually results in separation. Offences are generally divided into two categories: (1) simple infractions of the rules or failures to meet prescribed standards of punctuality, neatness, and bearing, and (2) class " A " offences which are those involving moral turpitude or major deliberate flaunting of the regulations, such as absence without leave, indulgence in alcoholic beverage, or unauthorized possession and use of automobiles. Lying, cheating, or stealing are unforgivable sins which invariably result in separation. Midshipmen fully understand that a second chance cannot be expected in offences involving moral turpitude.

Midshipmen follow a jam-packed schedule from 6.15 a.m. to 10.15 p.m. each weekday, and half-day on Saturday. There is a one-and-three-quarter hour compulsory study period six nights a week. Each one must attend Chapel in the yard or go to a Church of his own choosing in town every Sunday.

One enterprising midshipman thought he could escape going to church by claiming that he was a Mohammedan. Accordingly, he was required by the Commandant to turn out an hour before reveille, go up on the roof of Bancroft Hall, and kneel facing Mecca for half an hour each morning to say his prayers. After about a week of this in the middle of winter he confessed that he was a Methodist.

Plebes are allowed to go into the city of Annapolis on Saturday afternoons only. Shore leave privileges increase progressively until the final year, when shore leave is authorized each afternoon and on Saturday night, and occasionally for week-ends away. Leave periods total about seven weeks a year. There are trips away to football games and, of course, many social events. The Superintendent and Commandant entertain large numbers of midshipmen and their young ladies at receptions, tea dances, and dinners in their quarters.

Of course, after each such affair, the company officers see to it that their midshipmen dutifully write their thank-you notes—part of the training—and sometimes the contents are surprising. On one occasion, when Mrs. Boone and I had entertained members of the football squad and their ladies at a dinner preceding a Saturday night hop, one midshipman wrote as follows :—

" Dear Admiral and Mrs. Boone,

" My girl and I want to thank you for a lovely dinner at your house. It was a perfect beginning for a night of pleasure."

We carry on over 50 extracurricular programmes wherein we seek to broaden and provide varied self-expression for all members of the Brigade. These take the form of clubs of various kinds, such as professional, art, literary, language, and scientific clubs, religious associations, student publications, theatrical and musical organizations, hobby clubs, and various activities of the Brigade and individual classes. No secret societies are permitted. The midshipmen's periodicals, their plays, musical productions, orchestra, glee club, and choir are all highly popular and productive activities. Even the Russian language club, for example, has over 200 members.

Much emphasis is placed on competitive athletics. The intramural programme encompasses 26 different sports and results in 3,000 scheduled contests per year. The Naval Academy fields intercollegiate teams in 20 sports, the widest coverage of any institution in the United States.

As midshipmen advance through the four-year course they are progressively granted increased privileges and entrusted with greater responsibility and authority over their fellow midshipmen. Much of the routine administration and direction of the Brigade is placed in the hands of those of the senior class chosen as midshipmen officers. During the summer cruises the senior class midshipmen function generally as junior officers in the ships to which assigned. Thus, the final year is the transitional year, in which the outlook of the individual changes from that of student to officer.

Bancroft Hall, the huge dormitory, is the heart and centre of a midshipman's life at the Naval Academy. It was built, in several increments, to accommodate 2,550 midshipmen, with one, two, three, or four to a room, but now we have as many as six to a room. In most, but not all, cases, midshipmen choose their own room mates. The building houses the various service activities, such as barber shop, tailor shop, cobbler shop, dry cleaning and pressing, the uniform contractor's facility, ship's store, post office, express office, sick bay, dental clinic, etc. The duty officers readily attest to the five miles of corridor which the building contains. We hope in this year's budget to obtain money for two additional wings which will eliminate the present overcrowding.

The mess hall is also located in Bancroft Hall. The entire Brigade is seated and served simultaneously, each meal requiring only about 30 minutes. Despite the fact that the food is excellent and represents a carefully balanced, nutritious diet, midshipmen, like all sailors, must occasionally assert the sailorman's traditional right to complain about the chow.

One father, visiting his midshipman son, enquired, " How is the food in the mess hall ?"

The boy replied, " Oh, it's fine, what there is of it."

" You mean you don't get enough to eat ?"

" Oh, there is plenty to eat, such as it is."

The honour concept at the Naval Academy is something of which we are particularly proud. We regard it not as a ' system ' or 'code ' but rather as a mental attitude—a way of life in everything that we do. We seek to develop in every midshipman an instinctive desire always to tell the truth, a recognition that his word is his bond, a feeling within his own conscience that offences involving honour, morals, or integrity are intolerable and unworthy of the dignity and prestige of the Brigade.

When a midshipman has knowledge of an offence by a fellow midshipman involving moral turpitude, he is not required by regulation to report it, but we hope that he will ask himself the question : " Is this a man with whom we want to serve as commissioned officers in the Navy ?" If the answer is "No," we hope that the offence will be reported to the authorities, and it almost invariably is. We have Class and Brigade honour committees which may express an opinion as to the guilt or innocence of any accused offender but may not take or recommend the disciplinary action. The opinion of the honour committee is not binding upon the duly constituted authorities, but is given much weight.

There is one mechanism of great importance in the field of military character development which I have left till last, and that is the aptitude system. The aptitude system has three objectives: first, to identify those who are weak in officer-like qualities ; second, to help those so identified ; and third, to weed out those who, despite our special efforts, are unable to develop a satisfactory aptitude for the Service. Many elements, of course, go into the evaluation of officer potential. Leadership potential is perhaps the most important, but we take into account also such factors as military bearing and neatness, forcefulness, decisiveness, punctuality, participation in extracurricular activities, manners, and ability to associate amicably with others.

The aptitude system, which has been evolved over many years, is complex. There is not time to describe it in detail. In general, it embraces observation and reports by officers, civilian instructors, and co-ordinate or senior fellow midshipmen within each company. Then there are aptitude boards, warnings, probations, etc. It is definitely not a popularity contest. Separation for insufficient aptitude can result only through the unanimous recommendation of the academic board which is composed of the Superintendent, Commandant, and all heads of departments. As a rule, from one to three midshipmen are separated each year on this account. We feel that the aptitude system rarely makes a mistake in rating officer-like qualities and in separating those who are unsuitable to receive a commission in the Navy, even though meeting the academic standards.

The motto appearing upon the Naval Academy crest is " ex scientia tridens "— " from knowledge, sea power." The mission of the Naval Academy has been formally delineated, but I rather think that the aims of the Naval Academy are best summed up in the words of John Paul Jones, which seem as valid today as when written nearly 200 years ago. I should like to conclude by quoting them to you :—

" Qualifications of the Naval Officer "

" It is by no means enough that an officer of the Navy should be a capable mariner. He must be that, of course, but also a great deal more. He should be as well a gentleman of liberal education, refined manners, punctilious courtesy, and the nicest sense of personal honour.

" He should be the soul of tact, patience, justice, firmness, and charity. No meritorious act of a subordinate should escape his attention or be left to pass without its reward, even if the reward is only a word of approval. Conversely, he should not be blind to a single fault in any subordinate, though, at the same time, he should be quick and unfailing to distinguish error from malice, thoughtlessness from incompetency, and well meant shortcoming from heedless or stupid blunder."

The young men who meet these lofty standards will develop into worthy defenders of the freedom of the seas in the years ahead.

DISCUSSION

VICE-ADMIRAL G. BARNARD: As a British officer who has experienced great kindness from Admiral Boone in Annapolis, I should like to ask him a possibly embarrassing question about marrying ' steady dates.' In the old days, I think, the U.S. Navy used to have a rule which seemed very similar to our ideas, namely, that when a midshipman left the Academy he should go for one tour of foreign duty and have a look at the girls in other parts of the world, such as Hawaii, where they wear grass skirts, or in South America, or over here in Europe. Then, when he returned home, if he still wanted to marry his ' home town girl,' you used to say, " good luck to him."

Recently at Annapolis I have noticed that for a couple of days following Graduation Day the chapel there works double overtime with mass-production weddings. Would you care to comment upon that ? I know times have changed, but please be good enough to tell me whether I am old-fashioned when I say that is the only one thing about Annapolis which I think is a pity.

THE LECTURER: We should like to go back to our old rule that a graduate had to wait for two years before he married, but it just would not be popular these days. This matter of ' going steady ' has seemed to sweep the country. I do not know whether you have it here, but it is quite the thing in my country. These young people pair off even at high school and go steady until they get married. We are afraid that we just would not get the same degree of selectivity in our candidates, or would not have so many applications as we now have, if we still had the old rule of not marrying until two years after graduation.

Many of these young people come to the Academy engaged and stay engaged the whole time they are there. They are very proud of being engaged. When we held receptions, one midshipman and his lady after another would come up and the midshipman would say, " I want you to meet my fiancée." I remember one young man who came to a tea dance and said, " I would like you to meet my fiancée," and for good measure added, " We are engaged." In order to make a little conversation we said, " Is that so ? How long have you been engaged ?" He replied, " We were engaged before I came to the Naval Academy." I said, " I suppose that now that you have been engaged for all those years you want to get married on graduation." He looked quite serious for a moment and then said, " No, we have thought about it a good deal and we have decided that since we have been engaged for so long there is no use rushing into things after graduation. We have decided to wait four days."

It is a losing battle to try to combat human nature. They want to get married. As Admiral Barnard has said, it takes us about three-and-a-half days to marry off the initial rush, using the double chapel system. We have a main chapel and a small chapel down below. We have a wedding every hour, on the hour, in the main chapel, and a wedding every hour, on the half-hour, in the small chapel. It is very economical, because we can then use the same flowers for the whole day. I am afraid that we shall have to put up with that for a while.

VICE-ADMIRAL SIR GEOFFREY BLAKE: Since I stayed with Admiral Scales at the Naval Academy at Annapolis a matter of 35 years ago I have always watched with great interest the progress which you have made there in boat sailing. During the film that

we have just seen I noticed a few boats sailing about, and you mentioned that there were quite a number of craft used for training. As far as I can make out from reading *Yachting*, which is your periodical, and which is kindly sent to me by my friend Paul Hammond, Captain, U.S.N.R., there is no doubt that Annapolis has developed boat sailing and offshore cruising to an extent to be able to compete quite seriously with all the yachting people who go in for the Bermuda Race and the offshore races.

After graduates leave, however, do they get the same opportunities in the Navy? Have they a similar organization to that which we have here—the Royal Naval Sailing Association—which encourages all their sailing and cruising activities?

THE LECTURER: No, Sir, I am afraid we have not. Probably the closest thing we have to that is the Naval Academy Sailing Squadron, which is open to membership for officers as well as midshipmen. That means that only those who happen to be in the vicinity can participate, although in the races which you mention, Admiral Blake, we have officers coming in from various stations to participate. I am sorry to say that we do not have a Navy-wide programme, but we stress sailing a great deal at the Academy, and we do enter boats in the ocean races.

We are fortunate in having had some very fine boats presented to the Academy, and we have done pretty well. Some of those boats, with midshipmen crews, have been entered in the Bermuda race and the New London to Annapolis race. We recently sent a boat all the way to South America to participate in the Rio to Buenos Aires race. We have nothing quite comparable to the organization over here. I wish that we did, but we do not seem to get around to arranging it.

INSTRUCTOR CAPTAIN E. F. BYNG: I have one or two queries about the academic side of the Academy. First, Admiral Boone, you said that the rejection rate was about 30 per cent. over the four years. Those people who are rejected are thrown out of the Service, I presume; they are not used in any capacity on the lower deck. Secondly, is the fact that a Bachelor of Science degree is awarded at the end of the four years an incentive to join the Navy, in so far as it can be used by men when they leave, or is it merely an academic qualification label attached by the Academy?

THE LECTURER: Let me answer the second question first. The degree is awarded because the candidates have earned it, and it is in recognition of work completed. It is of no particular significance within the Navy, except in pursuing post-graduate courses in civilian universities. Also, it is a nice thing to have for those who might be leaving the Service.

As to the first question, the attrition through purely academic failure is about 15 per cent. for the four years. Those midshipmen are separated with no particular stigma. If they happen to have come from the naval service and still have obligated service to do—and their Naval Academy time counts towards that—they go back and complete that obligated service. Those who come from civilian life return to it. They may be reappointed if they are still within the age limit, and if they can obtain another appointment. They must then start from scratch again, pass the examination, and so forth.

This attrition rate is actually quite low compared to that of engineering students in civilian universities. I am told that that is about 50 per cent. Only half of those who start an engineering course in a civilian university in the United States finish the course and receive a degree. The reason for the lower attrition rate in the Navy is that there has been very considerable competition before a midshipman ever enters.

INSTRUCTOR CAPTAIN BYNG: I would like to take up the point about the attrition rate outside. There, of course, the overheads are borne by the students themselves, whereas in the Navy they are borne by the Navy. I do not think it is fair to compare the two rates.

THE LECTURER: I am sure that the Captain is right there. Do you mean, Captain, that the 50 per cent. would include some students who had to drop out because of financial reasons?

INSTRUCTOR CAPTAIN BYNG: No, Sir. If they drop out for academic reasons the cost of training them is not borne by the universities but by the students themselves. You mentioned that when you went to Dartmouth they were rather surprised at your rejection rate. I think that was because such failures must use up a lot of training and money.

THE LECTURER: I cannot quite agree with you there. I think that the wastage would be greater if we kept these people on and tried to pull them up to the required standards, only to have them fail to meet the standards after graduation. We have a rather different view of the matter. We do not consider it to be a wastage. We feel that it is a rather healthy process, and we would rather weed them out there than later on.

There is also another aspect of the problem, which I was discussing with Admiral Moore at lunch. We have a certain amount of effort which we have to expend upon the whole student body. If we were to expend an inordinate amount upon one student, to try to pull him along when he is well below average, we should be taking away that much effort from the training of the rest of the student body. We feel that this process of weeding out is not a wastage. I can see your point and I respect your views about the question, but we just happen to look at it rather differently.

THE CHAIRMAN: Before I thank Admiral Boone I want to make one comment upon his remarks about those who get degrees—and I may be sticking my neck out in doing so. I think that such a degree means rather more in the United States than it does here, because when Navy men go outside they will find a far larger proportion of people with degrees over there than we have here. Many more people over there go to college and obtain degrees, so it means much more to a man if he leaves the Navy with a degree.

There is one other comment I should like to make upon the lecture. He described the scene in the dining hall at Annapolis as if it were a very severe business for the fellows going there, and he talked about them all sitting on the edges of their chairs and behaving very well. I have been privileged to have lunch in the hall with the midshipmen. When I was on the Military Staff Committee in the United Nations I went down there, together with admirals, generals and air chief marshals of five different nations, and each one of us was told off to sit at different tables, with no supporters whatever. I certainly do not subscribe to the view that they all sit on the edges of their chairs and do not say much until they are spoken to. I had one of the hardest-thinking three-quarters of an hour that I have ever had, as those fellows threw an extraordinary number of questions at me. I worked jolly hard trying to answer their questions. It is not always quite so formal as the Admiral has said.

I have had the privilege of visiting Annapolis many times, and I would say that the parade of the Brigade, conducted by their own midshipmen officers, is one of the most impressive things that I have ever seen. It is jolly well done, and the fellows who take part in it must be trained extremely well.

On behalf of us all I thank you very much indeed, Admiral Boone, for sparing the time to come here. I know that you are a very busy man these days, and we are very grateful to you for coming. I ask members of the audience to express their appreciation to Admiral Boone for his lecture. (*Applause.*)

STRATEGY IN THE NUCLEAR AGE

By Michael Howard

MILITARY affairs are studied both by professional Servicemen and by civilian specialists—historians, sociologists, political scientists—and each group has its distinctive approach to the problem. The Servicemen are interested primarily in the impact of new weapons on the technical organization and the conduct of war ; the civilians are concerned with the changes that these weapons are likely to bring about in the nature of war as an instrument of international relations ; and it is only to be expected that each should show an occupational bias which strongly colours their thinking.

The soldiers, tempted by the nature of their profession to consider war as a thing in itself without much reference to the social and international strains which cause it, are prone to consider defence as a simple problem of strength. We must make ourselves so strong, they argue, that nobody will dare to attack us ; then, since we are not going to attack anybody, no war can possibly occur. It is an argument which has its weaknesses. The force which State A keeps on hand to deter State B from aggression will seem to State B to be a menace, a pistol pointed at its head to which only an even larger pistol, with an even more rapid action, can provide an effective answer. Thus State B will raise a force which, it seems to State A, is further evidence of its aggressive intentions, and makes necessary a larger force, in yet more instant readiness, to check it.

It is on this conception that the present doctrine of ' deterrence ' rests, and there is nothing new about this doctrine. Each major power in Europe between 1871 and 1914 maintained enormous forces at split-second readiness to deter its neighbours (whose aggressive intentions were clearly shown by their possession of enormous forces at split-second readiness) from starting a war. But so far from keeping the peace, the nervous General Staffs of Europe, obsessed with the problem of security, contributed enormously to the general tension in international relations which built up to such a disastrous climax in 1914.

The situation today is not, admittedly, exactly comparable. Then there was virtually no limit to the size of the forces, naval and military, which might be considered necessary for complete security. Today the huge destructive power of thermo-nuclear weapons imposes a ceiling to a nation's military potential which it is pointless to transcend. But if fear of the *size* of a rival force is no longer an obsession, it has been replaced by a yet greater fear of the technical advantages it may possess in the delivery of its missiles and the repelling of one's own. The arms race has moved from the industrial and demographic into the scientific and technological field, but it has lost none of its intensity.

This *impasse* is the inevitable result of a policy which relies simply on peace through strength. If it is not checked it can only lead to a steady and intolerable increase in military demands on the national budget, and an entirely justifiable reaction by the rest of the community against ' militarism '—the overestimation of the importance of force in the conduct of international relations. The solutions offered by civilian thinkers, however, today seem little more promising. They regard war, quite rightly, as an instrument of state policy, to be controlled and adjusted according to political needs. On the one hand, therefore, they may argue that since no state policy can possibly be forwarded by weapons not merely suicidal but

genocidal, it would be better to abandon them and take whatever the consequences may be. But whatever the attractions of such a policy in terms of logic, morality, or sheer common sense, it is not at the moment politically feasible. The fact that it would suit Russian interests at once makes it suspect to the West. The United States are not likely to forego any advantage which their technical achievement gives them in the field of international relations ; and this country is at present too sensitive about its status as a great power to lag unnecessarily far behind them. Alternatively civilian thinkers, in attempting to devise a scheme by which nuclear weapons *can* be made an instrument of policy, may produce sophisticated proposals for their employment which betray an ignorance not so much of military affairs as of what can or cannot be expected to happen in war. Thus it is only the soldier who understands the endless complexities of international affairs or the civilian who has himself experienced the impact of those curious laws which govern human activity within the Clausewitzian element of war who will be able to give us any clear guidance in the unfamiliar surroundings in which we must now live.

A seer's vision is too much to look for ; but some people have sharper eyes than others, and two books have recently appeared[1] whose authors see very clearly indeed—if not always eye to eye. The writers are outstanding representatives of the two types of thinker discussed above ; strong in their virtues and not entirely lacking in their deficiencies. Sir John Slessor has the robust and masculine judgment of the man of action, and his writing has that indefinable authority which comes only from natural wisdom ripened by long experience. Dr. Kissinger has the sinewy and pertinaceous intelligence of the scholar, unafraid of pursuing his arguments to unexpected and sometimes paradoxical conclusions. It is as instructive to mark the points on which they differ as those—and they are infinitely the greater number—on which they agree.

We may begin by contrasting the differing conception of international relations which each accepts as the background of his arguments. Sir John Slessor speaks simply in terms of preserving peace—a peace which is troubled at the moment by a group of men to whom he courteously refers as " the thugs in the Kremlin," but which, one gathers, is otherwise acceptable to all sane, prosperous, and contented men. Dr. Kissinger visualises the world in more pessimistic terms. For him peace no less than war is a struggle, at best no more than the absence of shooting war. His object is to find a way by which the West can pursue this struggle, if need be by force, without precipitating all-out war.

For a power such as Great Britain which wants nothing better than to enjoy its possessions in peace this may seem an unduly gloomy attitude to adopt. Most of us would have rather more sympathy with Laurence Sterne's Uncle Toby, whose definition of a just war is, as quoted with approval by Sir John Slessor, " but the getting together of quiet and harmless people, with their swords in their hands, to keep the ambitious and turbulent within bounds." Unfortunately the definition is not adequate and rarely has been. Uncle Toby and his compatriots were, in the eyes of the French, the constant inciters of their continental enemies, and unscrupulous—and ultimately successful—rivals for the trade of the world. Cromwell's Ironsides, according to Sir John Slessor, " started as quiet and harmless people, but they fought like tigers in defence of what they believed to be right." It is not a very felicitous example. The things which the Ironsides believed to be right were entirely

[1] *Nuclear Weapons and Foreign Policy*, by H. A. Kissinger (Oxford University Press, for the Council of International Relations). *The Great Deterrent*, by Marshal of the Royal Air Force Sir John Slessor (Cassell).

unacceptable to the majority of their countrymen, and could be gained only by an outrageous power of the sword such as this country has never known since.

No! Wars have occasionally started because a group of ruthless bigots or adventurers have attained power in one state and attacked without provocation an otherwise peaceful world, but it has not happened very often. More usually they occur because, in the constant tensions and rivalries of which international relations are inevitably made up, a point is reached when one side feels that without recourse to force it cannot secure or preserve some objective or interest which, rightly or wrongly, it considers vital.

The avoidance of such crises might be easy enough if the power, resources, and ambitions of the states of the world remained stable; but they do not. Changes in economic methods, changes in religious and political beliefs, changes in climate and population result in a continual flux in which states find it difficult to keep their power-relationships constant; and the changes through which we are now living are the most rapid and far-reaching that the world has ever seen. The Russian Communist and the Asian nationalist do not regard the nations of the West simply as "quiet and harmless people." To them we are a group of *bourgeois* states which have waxed fat at the expense of the under-developed countries of the world. If we fight to preserve our status we are unscrupulous reactionaries; if we do not we are decadent and effete. The fact that such an opinion is *wrong* is unimportant. What matters is that several hundred million people in the world accept it as an article of faith, and their number is increasing every-day. Tennyson, whose poetic insight Sir John Slessor so often and so rightly quotes, described the social unrest which underlay the placid surface of mid-Victorian England:

> "Slowly comes a hungry people, as a lion creeping nigher
> Glares at one that nods and winks behind a slowly-dying fire. . . ."

Tensions no less acute are at work among the nations of the world today.

The struggle for power has, in short, never abated, and though power must never be confused with force, an element of force is a vital part of it. The problem which faces us, as Dr. Kissinger points out, is to devise a method of using force which will be a viable tool in the conflict for power; a method which will impress our enemies without antagonizing our friends, which will support the ideals we profess and not belie them, which will aid the expansion of our economy and not restrict it.

For such a purpose the strategy of the deterrent, the threat to cripple Russia with thermo-nuclear weapons even though it is certain that we should ourselves be destroyed in the process, is of questionable value. "The most that the advocates of the deterrent policy have ever claimed for it" writes Sir John Slessor "is that it will deter a potential aggressor from undertaking total war as an instrument of policy." Only in the event of the most overt and unmistakeable aggression against an area which we consider vital, not simply to our interests but to our very survival, could such a weapon be used; if indeed there would really be any justification for using it then.

It was reasonable enough to say, in the past, that the defence of our vital interests was worth 'any sacrifice.' The presumption was that the state itself would survive and that any expenditure of blood and treasure was worth while to ensure its survival. But when the sacrifice demanded is that very survival itself we move into a totally different realm of argument. We are now in the ludicrous position, as Bismarck

once put it, of preparing to commit suicide for fear of death; and the arguments which justify the self-sacrifice of the individual in the interests of the community lose their validity when it is the community itself which is to be destroyed.

"It is utterly nonsensical to suggest" writes Sir John Slessor "that the atomic, and still more the thermo-nuclear, bomb is just a bigger and better bomb, different only in degree but not in character from the blockbuster of 1939–45." It is by the same token equally nonsensical to suggest that a thermo-nuclear attack on this country would be a bigger and better 1940 blitz. Dr. Kissinger frankly points out the political implications of the new forces at our disposal. "If the Soviets can force us to shoulder the risk of initiating all-out war" he writes, "there is a great danger that soon no areas outside the Western hemisphere will seem 'worth' contending for.... There is a contradiction in conducting a war fought presumably to maintain the historical tradition and experience of a people with a strategy which is almost certain to destroy its national substance." It is a contradiction which might, when it came to the point, paralyse us altogether. Certainly a strategy based on a threat of suicide has an element of paradox—to put it in no stronger terms—which our enemies would not be slow to exploit.

An overt threat of sufficient proportions to make us contemplate the use of thermo-nuclear weapons is in fact the last thing we should expect from the Communist world. Communist strategy, as Dr. Kissinger shows in one of the most fascinating chapters in his book, is one of 'ambiguity.' Communism is a religion as confident of ultimate triumph as is our own, and it measures its progress in terms of centuries. The bourgeois world, it maintains, is doomed by the remorseless laws of history, and the rôle of the proletarian democracies is to hasten its downfall by propaganda and attrition; by exploiting the inherent contradictions of capitalism, securing the allegiance of the colonial and ex-colonial peoples of the world, and in general eroding the crumbling cliffs of the capitalist states with the ceaseless patience of an eternally-lapping sea. To treat such a threat with methods suited to the simple and irrational bellicosity of a Fascist dictator is to play into its hands. There is nothing in Communist philosophy which corresponds to Hitler's romantic ambition of *Weltmacht oder Niedergang*, world-dominance or downfall. Its exponents neither desire nor need to force matters to a crisis: they can play an endlessly waiting game.

It is here that the best hope of world peace lies, for the West believes that it can play a waiting game as well. Our long-term strategy is based on the belief that states with rising standards of living and no fears of foreign invasion will become ever more unsympathetic to totalitarian doctrines. That such states become equally unsympathetic to anything resembling Western tutelage is something that we have to accept. A world from which communism has disappeared will still be riven by racial, national, and economic rivalries, as indeed would be a world where communism had triumphed; and we may expect to see the smaller states of the world asserting their independence of Washington and London as well as of Moscow to an ever greater degree. In such a situation it is as useless as it is dangerous to try to halt change and to freeze the balance of power in the pattern of 1945 or even 1955. History is dynamic. Its only absolute is change; and we have to adjust ourselves to its changes as a yachtsman must shape his course to winds and tides. Only if we are as flexible and as patient as our enemies can our society hope to survive.

But the hydrogen bomb is an instrument which lends itself neither to flexibility nor to patience. Dr. Kissinger makes it clear—as indeed did the transcript of the

Oppenheimer hearings—that the development of the American strategy of deterrence owed at least as much to the inter-Service rivalries of the Pentagon as it did to any objective valuation of the real threat offered by Russia. As Sir John Slessor puts it, the pictures painted by the President's Air Policy Commission " have to be in pretty gorgeous Technicolor if they are going to net the appropriations." Each of the American Services, developing its ever more expensive and destructive weapons in rivalry and isolation, has conjured up gruesome images of imminent danger from Russia to gain a larger share of the limited funds available; so " instead of adjusting our capabilities to the likely challenges," writes Dr. Kissinger, " we tended to adjust our conception of the likely challenges to the enormity of the new weapons."

The American Service chiefs thus became obsessed with the most extreme and unlikely challenge of all—a surprise Russian blow across the North Pole against the cities of the United States; much as we have been obsessed with the equally improbable stroke of an all-out attack on Europe. We have confused what the Russians might possibly do with what they will probably do; and as a result, " we have failed to see how vulnerable [such an obsession] has left us to the preferred form of Soviet aggression: internal subversion and limited war. By concentrating on measures to defeat a Soviet attempt to neutralize us physically, we have given the Soviet leadership an opportunity to neutralize us psychologically by so graduating their actions that the provocation would never seem ' worth ' an all-out war, the only form of war our doctrine took into account."

Dr. Kissinger freely states, however, that the possession of thermo-nuclear weapons and the power to deliver them is an essential pre-requisite of any strategy; that the first need of any offensive plan is to safeguard one's base. Here one can detect a certain weakness in his argument. He is quite rightly dismayed at the intrigue, the exaggerations, and the petty politics which went to produce the strategy of deterrence; yet he admits that this strategy is necessary, if only as a starting point. It is certainly regrettable that policy should be formulated in such a way, but it is the way of the world, and the Americans are exceptional only in being so open about it. Moreover in his determination to secure an adequate hearing for the needs of limited war he tends to overlook the hard fact that if one accepts the need for a deterrent force at all, one can only devote to the needs of a limited war such part of one's defence budget as has not been absorbed by that irreducible item. At times, indeed, Dr. Kissinger seems to be arguing a case rather than giving a balanced survey of defence requirements.

Sir John Slessor is far more judicial, but it is in some ways much easier for him to be so. The need to be able to fight limited wars in the furtherance of national policy has always been taken for granted in British planning, however inadequate that planning may have been proved when it was put to the test; and the organization of our armed forces has been unique in that their function has never been primarily to engage in desperate battle with an adversary of our own strength, but rather to meet an emergency in any corner of the globe. It may well be the minor campaigns fought by the British Army during the 19th century whose study will yield the most useful results to strategists of the future.

What will be the ' limits' on the wars in the future which, both writers agree we are likely to have to fight? The first, obviously, must be that of aim: in that both of them concur. Neither side must be striving for total victory or anything like it, and each must make it absolutely clear what its objective is. For this reason

Dr. Kissinger urges that diplomatic relations should not be broken off between belligerents, for diplomacy will be necessary " to ensure that the opponent obtains the information he requires to make the correct decisions." Such information " may prevent him from stumbling into an all-out war based on miscalculation or on the misconception of our intentions." Certainly much of the confusion—and indeed the danger—of the Suez operation lay in the ambiguity of our political aim. Objectives should be clearly stated, and be such as the adversary can be brought to accept without peril to his vital interests. Further than this, " A limited war between major powers can remain limited only if at some point one of the protagonists prefers a limited defeat to an additional investment of resources, or if both sides are willing to settle for a stalemate in preference to an assumption of continued risk." The guarantee of limitations will not be any scruple about abiding by a pledged word of honour ; it will simply be that no power can possibly gain by turning a limited into a total war.

It is more than ever necessary to be explicit about our intentions if we propose to introduce nuclear weapons into the conduct of limited war. It is evident from the pronouncements both of Mr. Dulles and of Mr. Sandys that this is exactly what we are preparing to do, and one can only hope that the decision has been taken in full consciousness of the risks involved.

The disadvantages are obvious. By initiating the use of such weapons in Asia, where their employment seems primarily contemplated, we will alienate the sympathies of the Asiatic peoples for whom the great crimes of the last war were committed not at Belsen and Auschwitz but at Hiroshima and Nagasaki. If we are operating through the bottle-neck of a port, as we must be, our lines of communication will be far more vulnerable to such weapons than those of the enemy. And finally, if we think we can use nuclear weapons and still keep the war limited, we are forced to consider the apparently impossible task of drawing up limits, on the size of the weapons and the nature of the targets, which have a chance of being, and remaining, acceptable to both sides.

It is interesting to study Sir John Slessor's successive pronouncements on the possibility of such limitations. Throughout the lectures and writings of which his book is composed he remains resolutely sceptical about the possibility of drawing up any detailed protocol as to what might or might not be legitimate weapons and targets ; but he has moved steadily nearer the belief that in a war already limited in its aim " the method and scope of the force employed will be limited by a sort of mutual unwritten agreement." Any attempt to make the limits explicit, however, he rejects : "It is not this sort of thing that will determine whether or not a war remains limited, but whether or not the issue is really vital to either side."

This sturdy commonsense is attractive to the empirical English mind. But on second thoughts one wonders whether, when the issues are so gigantic, it is really so wise to rely on what is virtually a policy of muddling through. It is not altogether true that the conduct of war is limited by its aim. Wars can get out of hand and develop their own logic, and one which bears little relation to the political object at stake. The overt cause of the war in 1914 was the collapse of the balance of power in the Balkans—the sort of issue that the mercenary armies of the 18th century would have settled with a few thousand casualties and without any disturbance to the civil and intellectual life of the belligerent states. It was the purely technical demands of 20th century warfare which forced the powers of Europe to put into the field vast armies of conscripts to die by the million ; and it was to justify this vast

slaughter that war aims had to be professed whose scope far transcended the original *casus belli*. Once wars begin, a process is set on foot whose outcome nobody can foresee; and to hope that the war aims themselves will remain constant is to ask far more than past experience gives us any right to expect.

It is perfectly true, however, that this is an argument which cuts both ways. If it makes the cautious approach of Sir John Slessor seem inadequate, it no less invalidates the more elaborate precautions which Dr. Kissinger envisages to ensure that the use of nuclear weapons should be confined to the battle area, and that cities within the battle zone, if declared open and certified as such by mutual inspection, should be regarded as sanctuary areas from nuclear attack. Once the war started there would seem to be little hope that such restrictions would be observed for any longer than either side, in the first World War, observed the totally unworkable restrictions imposed by international law on the conduct of war at sea.

Dr. Kissinger's argument, that today neither side could hope to gain by turning a limited war into a total one, is true only in so far as nations in wartime are guided purely by rational considerations of self-interest. It is certainly arguable that whereas such considerations in the past have led them to shake off any legal restraints on their action, in future they would equally strongly incline them to keep meticulously within bounds. But few historians or sociologists would maintain today that even in peacetime the conduct of man in society is guided primarily by enlightened self-interest; and once war begins the voice of reason has to shout very loud if it is to be heard at all.

It is arguable that when nations have violated the laws of war in the past they have done so not so much from a rational calculation of self-interest as because deep-seated forces of popular passion have been released which reck nothing of reason. Once these are loose, reflected in and fomented by a popular press, the barriers which rational calculation may oppose to their full flood seem very slim. This is the great argument against the practicability of limitation, and Dr. Kissinger admits it. Limited war of any kind, he agrees, depends on " the ability to create a climate in which survival is not thought to be at stake in each issue; and the ability to keep control of public opinion in case a disagreement arises over whether national survival is at stake." Perhaps this problem of the control of the irrational element in society is not wholly insoluble so long as its danger is recognized and the necessary steps are taken, by education, propaganda, and if necessary censorship, to deal with it. But it must be recognized as a problem and at least as much attention be devoted to its solution as to that of fixing the limitations to be observed.

Dr. Kissinger's proposals for limitation in fact go little further, when one examines them, than those which Sir John Slessor considers feasible. Sir John Slessor regrets that the last Defence White Paper did not include " a positive statement to the effect that we shall meet aggression wherever it occurs with that degree of force necessary to defeat it including, if necessary, with atomic weapons "; and he also suggests the adoption of the normal R.A.F. practice, in air policing, of declaring a " prescribed area " within which any enemy movement is liable to be attacked. Dr. Kissinger suggests that " we could announce that Soviet aggression would be resisted with nuclear weapons if necessary; that in resisting we would not use more than 500 kilo-tons of explosive power unless the enemy used them first; that we would use ' clean ' bombs with minimal fall-out effects for any larger explosive-equivalent unless the enemy violates the understanding; that we would not attack the enemy retaliatory forces or enemy cities located more than a certain distance behind the

battle-zone or the initial line of demarcation; and that within this zone we would not use nuclear weapons against cities declared open and verified so by inspection." The main respects in which these proposals go further than Sir John Slessor's are in their advocacy of clean bombs, about which there would be little disagreement; in the 500 kilo-ton limit, and one may reasonably wonder whether a higher explosive power gives a corresponding increase in military value; in the preservation of open cities, for which we have at least one precedent in Rome; and in the renunciation of attack on enemy retaliatory forces—a renunciation which we have already made once in Korea. In the event of prolonged hostilities all these restrictions would almost certainly break down, but that is hardly an argument for not making, in the interests of humanity, at least an initial attempt to impose them.

When Dr. Kissinger goes on to talk about the tactics of nuclear warfare, however, it is very much harder to follow him. He enters a necessary warning against the danger of thinking in terms of conventional warfare and simply grafting the new weapons on to conventional armies. The greater proportion of fire-power to man-power, he points out, will enormously reduce the pressure on supply lines, and a more flexible system of air supply may ultimately eliminate the orthodox conception of 'lines of communication' altogether. Thus, he goes on—

> "The tactics for limited nuclear war should be based on small, highly mobile, self-contained units, relying largely on air transport even within the combat zone. The units should be small, because with nuclear weapons fire-power does not depend on numbers and because a reduction in the size of the target will place an upper limit on the power of the weapons it is profitable to employ against it. The units must be mobile, because when anything that can be detected can be destroyed, the ability to hide by constantly shifting position is an essential means of defence. The units should be self-contained, because the cumbersome supply-system of World War II is far too vulnerable to interdiction. The proper analogy to limited nuclear war is not traditional land warfare, but naval strategy, in which self-contained units with great fire-power gradually gain the upper hand by destroying their enemy counterparts without physically occupying territory or establishing a front line."

It is difficult not to be sceptical about all this. What size of unit is going to be at once large enough to be self-contained (which implies presumably a considerable ability to service its vehicles and its atomic weapons) and small enough to be able to hide? What prospect is there of supplying such rapidly-moving units continuously and abundantly from the air? How many aircraft would be needed, and would even the United States be able to provide them for a limited war? A hundred similar questions arise. But the first partisans of tank warfare had to meet an equally destructive barrage of informed incredulity, and a study of the remarkably imaginative experiments being carried out in the U.S. Army today makes one hesitate to reject such a picture out of hand.

It is however difficult to equate it with Dr. Kissinger's proposals for limiting warfare. The mobility of such units would hugely increase the size of the battle area. Their independence from lines of supply would make it necessary to strike at the very sources of their supplies if they were to be affected at all. A nearer analogy than naval warfare might be the prolonged horrors of the Thirty Years' War, when self-contained armies blundered mercilessly round Germany seeking both battle and supplies, leaving a morass of ruin in their wake. It was not until some sort of 'front' was established, fed by organized lines of supply, that it became possible to impose

any restriction on the conduct of war. The disappearance of a ' front ' is more likely to cast us back into barbarism than enable us to refine such restrictions still further.

Sir John Slessor is less imaginative in the realm of tactics, but more convincing. He also is insistent on the need for our forces to dispense with clumsy lines of communication, but for him the word ' dispense ' does not involve replacement by a huge airlift. The result, in his opinion, is going not to increase mobility but to limit it. " You should consider " he writes, " whether the most important thing today is not to restore the mobility of the boot ; whether the most formidable army in any sort of modern war might not be one primarily based on men who can march, endure physical hardships, and make every round of ammunition find its target ; whether even the most effective supporting weapons might not be recoilless guns carried on pack-mules that can still move fast across country without having to worry about fuel supplies." It is a prognosis which at the moment carries conviction in a way that Dr. Kissinger's does not ; for just how invulnerable such armies can be to air attack the men who fought in Korea have every reason to know.

Finally, it is interesting to compare the comments which these two specialists have to make on our own defence policy. The Defence White Paper of 1957, in Dr. Kissinger's view, " reflects nostalgia for a time when security was absolute and control over a great power's survival rested entirely in its own hands. When Britain reduced her defence budget she did so significantly, in the category of her limited war capacity, by reducing her ground forces with the argument that missiles had increased the power of the deterrent. But the emphasis on a strategy which stakes the national substance on every dispute deprives the British defence effort of political effectiveness and causes N.A.T.O. increasingly to lack a sense of direction. Vis à vis the United States, the British strategic striking force does not give the United Kingdom a stronger bargaining position, for it represents only a marginal increment to the capacity in which we are strongest . . . the bases made available to us [i.e., the United States] by Britain are more important for our strategy and more useful to British diplomacy than the British strategic air force."

Dr. Kissinger does go on to point out, very fairly, that it is largely American intransigence in refusing to share their atomic knowledge which has forced Britain into developing her independent bomber force ; and he might also have borne in mind that Britain cannot tell for how long the American need for overseas bases will make them so considerate of her interests. But his suggestion that in building up our strategic bomber force and in reducing our conventional strength we are losing the substance of power and clutching at the shadow is one not easily to be refuted. Sir John Slessor bases his arguments for our development of such a force on the largely emotive grounds that without one we would not be a great power, an argument which other nations will no doubt employ in due course. " The fact is that today a bomber force equipped with the most effective modern weapons is the battle fleet of the 20th century, and if we want to remain a great power we must face up to the cost."

But this is not very sound reasoning. In the first place the naval analogy is entirely misleading. The battle fleet was an instrument which we could reasonably be expected to use without hesitation whenever policy demanded it ; the strategic bomber force is an instrument which we could not conceivably use except *in extremis*. In the second place we do not remain a great power by the mere possession of a vast and unusable weapon. We remain one, as we became one, by possessing a flexible, economical, and hard-hitting force which we can use with political skill and military

precision. We rose to greatness on the ruins of two powers, Spain and France, which fell largely because they made exactly this mistake of confusing grandiosity with greatness, the panoply of power with its reality. If we are not careful we may find ourselves stuck with the strategic bomber force as a non-negotiable asset, and live like the heirs of an entailed estate in genteel poverty for lack of a more negotiable form of wealth. In such a situation the possibility is not remote that this combination of pride and military poverty might one day lead us, as a similar pride led Austria-Hungary in 1914, to bring the world down about our ears rather than face humiliation again.

Such a temptation can be avoided only if we possess adequate conventional forces, and if these cannot be large they must be really mobile and superbly trained. It was the recognition of this fact that made the White Paper in many ways such an encouraging document, and our future as a military power, whether great, medium, or small, depends not on our strategic bomber force but on the effectiveness with which the recommendations of the White Paper are at the moment being translated into action. Often in military history defeats have paradoxically been the salvation of nations. It was the French who learned most from the Seven Years' War, the Germans from the first World War; and though we ultimately emerged victorious from the Crimea and from the Boer War, our humiliating reverses in those campaigns led to ruthless enquiry and radical reform.

So one hopes it will be with Suez. It is by our ability to conduct such operations as this with promptness and skill that the world will judge our claim to be a great power, and few episodes in our history have done so much to shake the faith of our friends and the respect of our enemies as did the delay, the uncertainty, and the ambiguity of that operation. If we can learn as much from that humiliation as we learned from the Boer War and emerge, as we did from that, with a new-model force, we will really justify our claim to rank as a great power. If we do not, then no amount of bombers and no conceivable scientific progress will save us from a well-merited eclipse.

ON FATIGUE

By Major-General B. T. Wilson, C.B., D.S.O.

SOME 50 years ago, either at the R.M.A., Woolwich, or the S.M.E., Chatham, certain boards of honour bore the names of officers who had lost their lives in the Peninsula and the Crimea. At least six of the names so recorded had against them the words "died of fatigue." Three were those of second lieutenants. I thought it so odd that a man should die in this way that I acquired an immediate interest in the phenomenon of fatigue which has lasted ever since. Maybe I acquired a subconscious fear of fatigue and a determination never to die of it myself, then also a second lieutenant or nearly one. The observations which follow deal with 'common or garden' fatigue as a factor of importance in war. They do not attempt to delve into medicine or to explore the intricacies of psychology.

Fatigue in General

Men who are made like Alexander the Great no doubt feel like gods and only become conscious of their mortality when they love or sleep. To such, fatigue is nothing. The ordinary man of any race, however, is mortal all the time and gets tired. The lithe and vigorous Pathans, who skip round the rocky hills of north-western India like mountain goats, greet each other, gravely and often, with a salutation which means "may you never be tired." Like everyone else, they hate and fear fatigue.

Women seem more resistant to it than their lords and masters, for they think little of men who tire easily or get ill without just cause. This greater freedom from fatigue may be more apparent than real, since women are more often mistresses of their own time, whereas men are usually not masters of theirs and are more easily caught at a disadvantage. The tired and the fresh, like the drunk and the sober, seldom make much of one another so that men may often be maligned unjustly. Yet many examples seem to show that women of all ages often stand up to fatigue and privation better than men in the prime of life. Mere physical strength evidently counts for little in the matter.

The Onset of Fatigue

The symptoms of fatigue are painfully familiar. They vary much in different victims and in their speed of attack. To be pleasantly tired is a luxury, more especially for the young, but beyond a certain stage fatigue becomes a refined torture. To some highly strung natures its impact on occasion seems to resemble that imagined of the agony of death itself. Although fatigue usually takes hold gradually, it sometimes supervenes with great suddenness. Shakespeare uses sudden exhaustion with dramatic effect in some of his plays. A visitation of this kind generally derives from suddenly disappointed hope—yet a man will sometimes finish a great task and then drop with fatigue as though he had been pole-axed.

Fatigue affects both the body and the mind of each sufferer quite differently. Some men of great spirit can keep going far beyond the limit of their normal physical endurance At the German counter attack at Cambrai in 1917, a brigadier of the 29th Division, who had saved the day on the flank of the breakthrough, fell unconscious from fatigue the same evening and remained so for an appreciable time. Collapse of this delayed kind can be harmful because of the damage it does to the mechanism of the body. In the ordinary person the body takes charge earlier

in the proceedings. Sleep overcomes the victim before any harm has been done and the enforced rest rapidly restores him.

Animals and Fatigue

The resistance to fatigue of certain animals is prodigious. The ungainly camel is famous for his endurance and commands respect for it. The horse is deemed to be a noble animal because a good one goes on to the bitter end, often without the urge of whip or spur; he notably sleeps sparingly and some horses have never been seen to sleep. The horse's habit of never sleeping may be a characteristic acquired as a domestic animal. The hybrid mule, if pushed to the limit, seems not to withstand fatigue as well as the horse. I remember a test exercise in desert country, involving pony and mule transport on level terms. After a prolonged march they got to the watering place with only a few casualties *en route*, whereupon, to the surprise of all, the mules proceeded to die, whereas the ponies rapidly recovered. The greater courage of the ponies seemed to be the only possible explanation.

Courage and Experience Essential

Courage is indeed requisite for holding off fatigue, and with it goes experience. Adolescents often have their full share of courage but lack experience in combating the tortures of exhaustion. This makes them particularly vulnerable to fatigue and at once accounts for the high proportion of second lieutenants on the boards of honour aforesaid. Big, heavy youngsters seem to be at a disadvantage in this matter compared to small, light ones. Training and discipline being equal, a battalion of young guardsmen could be expected to tire physically more rapidly than a young battalion of light infantry. Company commanders of the 1914–18 War noted the special proneness of young soldiers to fatigue without worrying very much about it. To have misgivings about such matters was then almost improper. Amongst hundreds of 'instructions for guidance' which reached the lower ranks of the Army in that war, few referred to morale in general and none to fatigue in particular.

Study of Fatigue Necessary

Since those bad old days the maintenance of morale has been most rightly made a principle of war. It is to be expected, therefore, that the alleviation of fatigue is receiving the attention which it deserves. Signs of such study, however, are not apparent in the military journals of Great Britain, nor for that matter in those of the Continent, although there, questions affecting morale are often discussed. This seeming omission may be due to the time which information about the internal activities of the Services takes to get to the outer world. Perhaps the requisite action is still being considered by experts and at the military schools, and has not yet become minted doctrine. Such caution is commendable since the moral conditioning of troops must be sensible and robust—'feather-bedding' soldiery bears no relation to war for it makes laziness respectable. To overstress the evils of fatigue would soon cause our defenders to resemble Phil May's now forgotten tramp, who wrote to his doctor, "I eats well and I sleeps well, but when it comes to a job of work, I comes over all of a tremble." The object of any study of the problem should be to discover how to get the maximum performance out of troops without killing them in the process.

Physical Fatigue

In earlier warfare, when operations involved close fighting, long marches, and the carriage of heavy packs, the fatigue which afflicted soldiers was physical rather than mental. The rank and file were rough and strong and accustomed from their

youth to long journeys on foot. To cover 20 miles took time, but it was a commonplace of physical effort. The training of such men involved only the inculcation of iron discipline and the acquirement by incessant drill of the few military skills of the period. The test of war soon obliterated the weaklings and a good level lot of experienced soldiers remained. The wastage of such a system was prodigious and deaths from fatigue were hardly noticeable in comparison to those from wounds and disease.

By the middle of the XIXth Century more enlightened ways of training were coming in, particularly in the U.S.A. during the Civil War of 1861–65. During this bitter struggle Stonewall Jackson, the unorthodox Confederate Commander who was like a Cromwellian general except that he did not fight on Sundays, made a careful study of physical fatigue in order to improve the marching power of his infantry. He seems to have originated the 10 minutes' halt at each clock hour of a march, which became the standard practice of all armies, including our own. General Jackson's infantry did not make long marches merely now and again. Throughout the Shenandoah campaign they marched and fought incessantly in a manner almost unique in military history, wearing their boots to tatters in the process. Nor was the 10 minutes' halt a mere formality. It was the recipe for the power to make the long marches which led to easy victories. At the halt signal all ranks threw off their equipment and relaxed flat on their backs by the roadside. As hour succeeded hour, more and more of the marchers instantly fell asleep during the short halt. Experience taught them that this short snatch of sleep kept them going without distress for the next 50 minutes, and discipline did the rest. At the end of the march there would be a long halt with some food, and the men would then be ready to attack the enemy.

The invention of all kinds of mechanical transport for war purposes has now diminished the importance of marching. In the desert warfare of North Africa the succession of long advances and withdrawals took the form of what the troops called ' motoring ' and were not done on foot. Yet in both the Great Wars there were many occasions when long marches were necessary and the demon of physical fatigue had to be kept at bay. Good commanders will therefore not neglect to teach their troops the marching technique of Stonewall Jackson, especially today when no one in civilian life ever walks a yard unless he has to. Incidentally, long marches are well known to be excellent for building up the morale both of the individual and also of the unit to which he belongs.

Mental Fatigue now more Important

In the main, however, machinery of every kind will tend to reduce the incidence of mere physical exhaustion. More and more fatigue of the mind will be the enemy which has to be resisted. An attack on the mind is more deadly since it is the inner citadel of the whole organism. The body is only the outer part of the fortress which can be lost and regained, whereas if the citadel falls the struggle is over. Thus a man who is physically tired soon recovers after sleep; if he is mentally exhausted he may be unable to sleep and may therefore tend to collapse. He must learn that sleep will inevitably rescue him sooner or later and that a misfire can be shrugged off as unimportant.

The importance of the struggle against mental fatigue is especially noticeable in air and sea warfare, where mere physical exhaustion usually does not come into the question except for those who become casualties. The soldier reading of sea

battles cannot but wonder at the freshness and ferocity with which sailors set about the enemy.

Alleviations of Fatigue

The chief defence against fatigue is in training the body and mind to withstand it. A man inured to hardship will stand fatigue better than one who is not. Therefore military training should be steady and continuous, and aim at keeping all ranks usefully employed all day both on and off parade. This is easier said than done and is, in fact, one of the great problems of military life. Those who solve it best will find that they and their men suffer the least from the fatigues of war.

Minor reliefs for fatigue are legion. They include every kind of change in the expenditure of effort. The marching soldier will vary the way in which he carries his loads and his place in the column of route. The ' motorist ' will get his halt in every hour and change his seat in the vehicle when he returns to it. The rider shortens his stirrups to alter the impact of his weight on the animal's back. Towards the end of a long march, old style shikaris would carry their khud sticks variously crossed behind their backs to relieve other muscles.

The tempo for long endurance should be slow and rhythmic. The Swiss guide starts a climb slowly, as though he were setting out to circle the globe. Returning home downhill he goes at a great pace, using gravity as much as possible to help his descent. In the U.S.A. a remedy is found for the over-stimulation of a remarkable climate in the strange practice of chewing gum. The Arab gets mental relief on long desert journeys in much the same way by chewing a date stone or a pebble.

Since a man can only develop as much energy from his body as he puts into it, the intervals at which food is taken are important and so is its energy-making content. Alcohol quickly produces a feeling of well being which does not last, so it is not good for relieving fatigue, except sparingly taken when the job on hand is done and a spell of rest lies ahead. Nor has alcohol ever proved to be of much value for increasing the *élan* of troops in the attack. At Plevna, for example, the Turks held on doggedly to their defences in spite of being attacked by Russians who had been fortified for the occasion with pannikins of vodka from buckets carried round the ranks by orderlies. Tobacco, like alcohol, is of little help in holding off fatigue and is better enjoyed when the job is done. Special drugs are so lowering in their ultimate effects that they can be written off as useless and dangerous. It is said, probably quite untruly, that the Germans experimented with them towards the end of the last war and that they came to the same conclusion. Hitler certainly drove himself on with drugs and as a result finally became almost demented.

An ingenious commander will have other more legitimate reliefs for fatigue in his armoury and by ringing the changes will give each of them a semblance of novelty. Almost any distraction is useful when men are very tired.

Sleep

The incessant struggle with the force of gravity is the prime cause of fatigue. A man marching or working erect is at grips with it all the time. Seated he is at a better advantage, and prone better still, whereby some learned humbugs reckon that their minds work best when they recline. Such people can be classed with those who claim to think best with their eyes shut, when their real practice is sometimes to think but yet more often to sleep. Whilst a tired man can indeed sleep anywhere and in any position, the sovereign remedy which drives off fatigue is sleeping for several hours lying down.

Some people, especially the young and the old, require a great deal of sleep. Even in the prime of life there are many who tend to fade away without seven or eight hours a day. Exceptional ones seem not to require more than five hours' sleep or even less, in spite of considerable daily physical exertions. Napoleon required much sleep to keep going at full capacity, and in his best years was adept at snatching a sleep at will. Towards the end of his course, however, he lost his mastery of sleep and on the morning of Waterloo was inactive until eight o'clock, so that he was dogged by shortage of time throughout the battle. In contrast, Wellington was content with six hours' sleep and normally rose at 6 a.m. Of the same age as Napoleon he was physically harder and fitter. At Waterloo he spent 17½ hours in the saddle, whereas Napoleon directed his battle from a small table in front of his headquarters and only got on a horse to launch the attack of the Old Guard.

Occasionally Wellington slept in the open, wrapped up in his cloak, whilst waiting for a battle to develop. One historian records that he did so by the roadside at Quatre Bras, "covering his face with a newspaper." This is a commendable practice and showed the Duke's awareness of the sorry picture which even a great man can present when he is asleep. Worn out staff officers dozing in cars attract less attention by wearing black spectacles and by keeping their mouths shut. It irks the troops to see officers asleep in cars and looking grotesque.

Sir Winston Churchill's remarkable idiosyncracies in the matter of sleep illustrate very well the variety of ways in which men of action use it at will to exorcise fatigue. All of them can control sleep and yield to it only for a fixed period. Napoleon, at his best, awoke abruptly and at once pursued his train of thought from where he had halted it.

The ordinary person must therefore beware of a vacancy of mind leading to aimless sleep of uncertain duration, e.g. after meals, especially dinner. If he does better with a snatch of sleep during the day, let him not take it at the same hour lest the habit become too fixed and overpowering. Above all, let him keep it short and under control. By so doing a soldier can learn to sleep for a quarter-of-an-hour at will and to awake refreshed. He will then dispose of a sovereign remedy for the fatigues of war when they descend upon him. If, in addition to this, he leads a busy, active life and finds time every day to take exercise equivalent to a five-mile walk, he will stay the course better than most.

Conclusion

The gaps and imperfections of this examination of some general aspects of fatigue will perhaps draw attention to the immensity of the subject and to the benefits which should follow practical study of all its ramifications. Dr. Bannister's remarkable four-minute mile shows how a better understanding of human exertion leads to performances which far excel those of the giants of the past. Greater knowledge of fatigue, practically applied in military training, will diminish the number of dismal occasions on which troops arrive on the scene exhausted and unfit for their task. Military history is full of them.

PATTERN FOR LIMITED (NUCLEAR) WAR: THE RIDDLE OF THE SCHLIEFFEN PLAN—I

By Captain G. C. Wynne

THE recently published American book *Nuclear Weapons and Foreign Policy*, by Dr. Henry A. Kissinger, has illuminated the existing fog of ideas on this vital modern problem. Summarizing the deliberations of 36 American experts over a period of 18 months, he sees the picture of an ever-present U.S. Strategic Air Force maintained equal to its strongest opponent and ready to deliver the ultimate deterrent from a chain of bases. And under the shield of that threat he believes that limited wars are possible. The aims of such wars would have to be limited to make them acceptable, for the ultimate alternative is the prospect of world-wide ruin.

The tactical concept of such a limited war, with or without nuclear military weapons, is not discussed in any detail; but the gap seems to be filled by the publication in Germany last year of the full text of the long-secret Schlieffen Plan. Both the Russian Army and the new West German Federal Army are today organized and being trained on its tactical doctrine as developed in the two World Wars. German military authorities believe that modern automatic and nuclear weapons fit into Schlieffen's idea of an enveloping line of fire-power, using every available weapon on the ground and in the air, to close in and force a rapid capitulation. Why is this German Schlieffen Plan of the two World Wars still a closed book to the British, American, and Commonwealth armies? The purpose of these articles is to open the book and tell its story so that the suitability of Schlieffen's ideas as the pattern for training for limited (nuclear) wars can be judged on their merits.

The Riddle

Is the British Army 50 years out-of-date as a fighting force? That is the question which arises after reading the full text of the 50-year-old Schlieffen Plan recently published in Germany.[1] To ask such a question about an army that survived victorious through the two World Wars may seem ridiculous. Yet the fact remains that a study of the Schlieffen Plan seems to indicate that the answer may be in the affirmative. The British Army, it appears, fought those two wars, and is still being trained today, in battle methods that Schlieffen tore up as obsolete over 50 years ago; and its victories were due in large measure to one or other of its Allies who moved up abreast of German developments.

An answer to the question is important because the new West German Federal Army is now organized and being trained on the basis of the Schlieffen Plan. Another chapter is thereby opened of a story as remarkable as any in military history, and if British and German forces are to be trained side by side for European defence, a knowledge of it seems essential as a basis for a common tactical doctrine.

In world opinion the story of the Schlieffen Plan begins and ends when the German Army was led to disaster in August, 1914, at the start of the first World War.

[1] *Der Schlieffen Plan.* Gerhard Ritter (Oldenburg, Munich, 1956). The full text of the plan remained secret among Schlieffen's official papers in the German archives in Potsdam, including his original manuscript of the plan. They were found in two boxes when the place was entered by American troops in 1945 and were sent to Washington. Little notice appears to have been taken of them and they were returned to Germany in the spring of 1956.

For the German Army, however, the story begins at the turn of the century, and the plan has been their guiding star ever since. It was not an ordinary operational plan but a new conception for fighting a battle, and in German military opinion the German defeats in the two World Wars were due not to Schlieffen's ideas but to the failure of Germany's military and political leaders to apply them effectively.

General Count Schlieffen was Chief of the German General Staff from 1892 to 1905. He was regarded in his lifetime as the prophet of a new era in military thought caused by the invention of the Maxim machine gun in 1881 and the quick-firing field gun in 1896. He predicted that the greatly increased fire-power of these automatic weapons would compel a change in battle methods as revolutionary as the change from the Napoleonic age of massed battalions and cavalry charges to that of a line of rifle fire-power early in the 19th century. He regarded the new age of automatic weapons as an equally definite milestone in tactical progress, and he showed the German Army the way forward. Instead of fighting its battles with rifles firing 20 bullets a minute, the German Army was to fight with machine-guns firing 600 bullets a minute ; and he gave it a tactical doctrine to make use of this greater fire-power. That tactical doctrine, which was incorporated in his plan, became the standard tactical doctrine with which the German Army fought the two World Wars and which it still accepts today. The Russians adopted it as the model upon which to build and train their Red Army after the first World War. Neither the German nor the Russian Army have made any basic alteration to provide for nuclear weapons. These new inventions, they say, fit into Schlieffen's ideas.

Why then has the British Army remained behind ? Why is it still being trained in the battle methods designed for rifle fire-power that Schlieffen discarded 50 years ago ? Why, contrary to German and Russian opinion, does Field-Marshal Lord Montgomery say in a recent lecture to the R.U.S.I.[2] that nuclear weapons demand a new conception of a battle ? If that statement is true, are the Germans and Russians justified in continuing to pin their faith in Schlieffen as a guide ? Or is the tactical outlook of our military leaders 50 years out-of-date ? This outline of the story of the Schlieffen Plan may help to find an answer to the riddle.

The Schlieffen Plan : 1905

German historians have already placed Schlieffen in the front rank of the great military reformers, alongside Frederick the Great, Clausewitz, and the elder Moltke. He built up the German General Staff organization which became the model adopted by other European armies, including the British ; but his chief interest was the transformation of the German Army's battle methods in order to carry out a plan for a quick victory over France and to make Germany the master of Europe.

The crux of the new tactical doctrine was his conviction that wide-spaced machine-guns, backed by quick-firing artillery and with a minimum of infantry protection, would be able to stop the strongest attack by the traditional lines of infantry. He predicted that " the lines of infantry will simply be mown down by bullets." On that assumption a battle front, both in attack and defence, could be held by machine-gun fire-power instead of by man-power. The new fire-power would not only replace the traditional line of riflemen but also make redundant the supports and reserves of man-power needed to maintain it. The whole of that replaced man-power, up to two-thirds of an army's fighting strength, would be available from the

[2] " The Panorama of War in a Nuclear Age." Field-Marshal Lord Montgomery R.U.S.I. Journal, November, 1956.

outset of a battle or campaign for immediate offensive or counter-offensive action and, since frontal attack against the new fire-power would be suicidal, that mass of assault was to be directed against an enemy's flanks and rear. The long tail of transport required to maintain the old battle front, held by man-power, could be replaced by a shuttle service of motor-lorries to provide the increased ammunition requirement.[3]

Here, then, was a simplification of an army's organization that transformed the look of a battle. The replacement of man-power by the fire-power of automatic weapons would enable the speed and elasticity of an army's movements to be vastly increased ; and the new organization would provide a more balanced force. That tactical doctrine formed the basis of his plan for a quick victory over France. The French Army was to be surrounded by the new fire-power and forced to capitulate within a few weeks.

As model for his plan Schlieffen took Hannibal's classic battle of envelopment at Cannae in 216 B.C., in which a Roman phalanx of double Hannibal's strength was annihilated. To make up for his disadvantage in numbers (40,000 against 73,000) Hannibal, the Carthaginian, strung out his foreign auxiliaries to cover the whole frontage of the Roman phalanx, and instead of placing his seasoned troops in support and reserve in the traditional manner, he placed them behind the outer flanks in two compact formations. He thereby gained the great advantage of being able to operate on a broader front than his opponent despite his numerical inferiority.

The battle that followed may be divided into two stages, the first to show Hannibal's method of defence and the second his method of attack. In the first stage the Roman phalanx accepted Hannibal's invitation to walk right in to swallow the easy bait of the weak line of foreign auxiliaries. The auxiliaries fell back, enticing the phalanx on, and thereby unmasked the formations waiting on either flank. These swung round and, spreading out, counter-attacked the whole depth of the phalanx from flanks and rear. The battle organization of the phalanx became unbalanced and it halted.

The second stage of the battle then opened. Hannibal's foreign auxiliaries, seeing the phalanx halted, advanced and engaged it frontally, while his seasoned troops pressed home their attack against its flanks and rear. These, spread out around the whole depth of the phalanx, had room for each man to make the fullest use of his weapons, whereas the Romans, driven into a confused mass on the centre, were so congested in the net closing in upon them from all sides that they were unable either to use their weapons or to break-out. They were rapidly annihilated.

Hannibal had devised his battle plan as a trick to defeat the Roman phalanx. To hold an enemy in front with a weak force while attacking his flanks in strength is a common device throughout military history, given a sufficient numerical superiority. Hannibal, however, had carried out the idea with complete success against an opponent of double his strength. To Schlieffen, Hannibal's victory meant much more than a mere tactical trick. He saw in it the design for the battlefield of the new age of automatic weapons. The frontal holding force, represented by Hannibal's foreign auxiliaries, though weak in number, could now be so strong in fire-power that an enemy would be unable to break through it. To quote from the concluding paragraph of his monograph on the Cannae battle: "weapons have changed since those ancient days but battle conditions have not altered. The

[3] *Der Krieg der Gegenwart.* Schlieffen. Deutsche Revue. January, 1909.

machine-gun and quick-firing artillery have taken the place of the old weapons ; and Hannibal's plan for a quick victory can be carried out today on the same lines to an equally successful conclusion. . . . The million-strong army of today need not be directed frontally against an enemy ; the front can be held by the new fire-power enabling the mass of the army to be directed against the enemy's flanks and rear."

Without going into detail it is not difficult to see how Schlieffen applied the Cannae victory to his plan for a quick victory over France. His method of defence is illustrated by the plan's instructions for meeting a possible French offensive into Lorraine at the outset of the campaign. Only three German corps were allotted to hold the Lorraine front southwards of Verdun (a German corps, at that time of two divisions, had 25,000 infantry, 141 field guns, and 48 machine-guns). This holding force, if attacked in strength, was to fall back, enticing the French on into the great pocket between the Moselle and the Rhine where they would be held by a fire-power line of resistance in front of the two river lines while pre-arranged forces closed in upon them from flanks and rear. That plan for defence followed faithfully the first stage of Hannibal's Cannae victory.

The method of attack in the plan differed from Hannibal's only in that Schlieffen proposed to concentrate his mass of attack on the right flank instead of on both flanks. Of the 25 active corps wheeling through Belgium into northern France on the hub Metz-Thionville, eight, corresponding to Hannibal's foreign auxiliaries, were to maintain a constant pressure towards the 100-mile front Verdun—La Fère. They were to be strung out on every road and track, without supports or reserves, and ready to deploy their fire-power at once if attacked. The remaining 17 corps, concentrated as a strong right wing marching all-out towards a front from La Fère to the coast, were to swing round against the French left flank and rear : 10 of them against the La Fère—Paris line, the left flank of the expected French Aisne—Oise position, and the remaining seven to pass westward of Paris, encircle the place, and march on south-eastwards towards Troyes, behind the French rear. The French Army, with its battle organization unbalanced, would be forced into a great pocket between Paris and the Swiss frontier. Schlieffen stressed the need that every German machine-gunner should be given ample room to make the fullest use of his weapon during the closing-in operation ; whereas the French Army, congested in a narrowing net of fire-power, would find itself unable to deploy its weapons or to break out and would be forced to capitulate. Schlieffen hoped, in fact, that the French would offer " the loving service " of attacking in an effort to break-out. In that case, whether on a large or small front, the Corps attacked would at once deploy their fire-power in a line of resistance, the protective infantry would fall back enticing the French on into the concealed machine-gun killing grounds, and the formations on either flank would march on leading to local envelopments. The losses the French would suffer in these local operations would hasten and make easier the final victory.

The basic idea of the plan was therefore to shepherd large or small enemy formations into pockets or nets formed by the new fire-power and there to envelop them. The strong right wing that was to outflank every French effort at resistance and force the French Army south-eastwards away from its communication centre at Paris was expected to hold the initiative from start to finish. The whole campaign was planned like a railway time-table. It was to start on the 17th day of mobilization and to end in victory by the 36th to 40th day.

In the final paragraphs of the plan Schlieffen admitted that if the French carried out a mobile defence and, by keeping their left flank strong, were able to fall back to

a succession of positions along the many river lines southwards of Paris and avoid envelopment, the prospect would be that of an " endless war." To avoid such a calamity he asked that the German Army be increased to at least equality with a probable Franco-British-Belgian opponent in order to ensure that at least seven corps would be available to pass westwards of Paris, and to have, in addition, six *ersatz* (supernumerary) corps marching close behind to invest the French capital.

Schlieffen's predictions were confirmed by the remarkable achievements of machine-guns in the Russo-Japanese War. German observers reported that strong attacks by extended lines of infantry had been annihilated by machine-gun fire and they estimated that the fire effect of six machine-guns, working in pairs for cross-fire and carefully sited and concealed, was equivalent to that of a battalion of infantry (800 rifles). In the Schlieffen Plan the fire-effect of four machine-guns was regarded as equivalent to that of 800 rifles ; each corps was given a frontage of about 12 miles to be held by its 48 machine-guns, implying that the pairs of machine-guns would be deployed at about 800 yards apart. The battle experience gained by the observers in the Far East converted a majority of the German General Staff to Schlieffen's ideas. A specialist corps of machine-gunners was created with a large trained reserve of selected officers and men, and the production of machine-guns was given first priority.

Although the idea of replacing man-power by fire-power was accepted by the German General Staff, the older generals ridiculed the elaboration of the idea into a tactical doctrine. General von Moltke, nephew of the victor of Sedan, tells us in his memoirs that he regarded as fantastic the idea of enveloping masses of an enemy, up to 500,000 men or more, after a few days' fighting. Such operations which, as he told the Kaiser, Schlieffen taught at the General Staff war-games to the exclusion of the orthodox methods of fighting a battle were, in his opinion, " pure academic silliness (*rein doctrinaire Spielerei*) of no practical value ".[4] The Kaiser, he tells us, agreed ; and in December, 1905, General von Moltke took over from Schlieffen as Chief of the German General Staff.

Schlieffen, dismissed with scant thanks, was now 72. He spent the remainder of his life encouraging by lectures and writings the increasing number of German officers of all grades who believed in his tactical outlook. He had been able neither to reorganize the German Army into smaller and more mobile divisions to suit his tactical ideas as he had intended,[5] nor to re-write its training manuals to the extent he had hoped. Nevertheless, the impress he had made was so substantial that the outbreak of the first World War in 1914 found the German Army the hardest hitting in the world, with an estimated 50,000 machine-guns ready for service.[6] His death in 1913 spared him the torment of watching his plan being torn to shreds by his successor ; and he was also spared the sight of the bitter harvest produced during the two World Wars from the seed he had sown.

The Plan in the First World War

The plan, known later as Germany's 20th century *Blitzkrieg*, acquired a brief but world-wide fame when the 1,000,000-strong German Army crashed through Belgium into northern France in August, 1914. German military opinion, including the German official history, generally agrees that it would have succeeded if its

[4] *Der Schlieffen Plan.* Gerhard Ritter, p. 117.

[5] As suggested in the codicil of December, 1912, to the plan. See *Der Schlieffen Plan* by Gerhard Ritter which gives the codicil memorandum in full.

[6] See *Eyewitness*, Major-General E. D. Swinton. (Hodder and Stoughton, 1923.)

instructions had been followed; but General von Moltke, Schlieffen's successor, who regarded Schlieffen's unorthodox tactical ideas as impracticable, disregarded the plan's three essential requirements.[7]

The initial Franco-British advance into Belgium " offered a loving service on a scale that must have exceeded Schlieffen's wildest hopes," to quote from the German official history, " it could not have played more helpfully towards a German victory." General von Moltke, however, instead of drawing it on with his thin fire-power line of resistance so as to make easier the enveloping action of the unopposed formations on either flank, met it by frontal attacks that merely drove the French and British back along their communications. The German official history mentions, in particular, the ' loving service ' of the British Expeditionary Force (two corps) and French Fifth Army (seven corps) that advanced into the very centre of the crescent-shaped German strong right wing (15 corps) about Mons—Charleroi. The flanks of the German crescent had only to march on while the centre held or fell back, and the Franco-British force must have suffered a crippling defeat or envelopment. Instead, the German commander ordered the corps on both flanks to close in on the centre so as " to attack the enemy in front with superior numbers " in the old orthodox fashion.

Secondly, instead of keeping the right wing strong, which was another of the plan's essential requirements, General von Moltke did exactly the opposite. He kept the left wing strong in order to defeat an expected French offensive into Lorraine and, in addition, he further weakened the right wing by sending two of its corps to the Russian front unnecessarily. As a result, only nine corps were available to attack and envelop the French left flank about La Fère—Paris instead of the 17 corps that the plan had given as the minimum requirement.

Even so, the plan might still have succeeded if General von Moltke had not disregarded its third essential, to pass west of Paris and encircle the city. Instead, he allowed the right wing to close in to fill the growing gaps in the line wheeling round on the hub Metz-Thionville, with the result that the fighting corps all passed eastwards of Paris.

The French, with that vital rail and road centre still in their possession, were now able to operate on the broader front, and they won the Battle of the Marne. They were able, too, to move troops westward to the coast quicker than the Germans, and secured their sea flank near the Belgian frontier, about Dunkirk. Trench warfare then set in on the 400-mile front from the Channel coast to Switzerland; and so began " the endless war " that Schlieffen had predicted if his plan should fail. He also predicted that if such a war should happen Germany would be defeated.

The mishandling of the plan, together with the severe German casualties due to the old orthodox frontal attacks at Ypres in November, 1914, in a final effort to break the deadlock before winter, ended the rule of the anti-Schlieffen generals. Moltke's successor, General Falkenhayn, though over-cautious and uninspiring as a leader, gave a free hand to his staff to apply Schlieffen's ideas to trench warfare.

The Rigid Defence

The idea in the plan was that the outpost screen would fall back if attacked in strength and invite the attack to enter a killing ground backed and flanked by machine-guns and strong counter-attack formations. In the conditions of trench warfare, however, the front trench or outpost line was to be held rigidly

[7] German Official History Vol. iv pp. 508–541.

as the main line of resistance, and in order to support it a row of machine-gun nests (*Stützpunkt*), each with two guns arranged for cross-fire, was constructed about 800 yards in rear, and about 800 yards apart, along the length of the Western Front. These machine-gun strong-points dominated the battle area. They were in small ferro-concrete emplacements, proof against all but the heaviest shells, and were concealed near to ground level in slight rises of ground or, where possible, on reverse slopes or in folds of ground giving a field of fire up to 200 yards, the minimum considered necessary to stop a strong attack. Wire entanglements covered any dead ground between them so as to guide an attack into the cross-fire of the guns. The two guns of each nest had a close escort of an infantry group (12 men including ammunition carriers); and up to a half-company of infantry (about 100 men) were ready in the 800 yard gaps between the nests to prevent infiltration and for local counter-attacks.

The first test of Schlieffen's row of machine-guns came with the French offensives at Arras and in Champagne in December, 1914. The German official history (Vol. VI, p. 400) tells us that the "admittedly risky defence held without difficulty." The effect of the machine-gun fire was "outstanding and annihilating," and the French had heavy losses for little gain. For the Germans it was "an experience which had deep and lasting consequences; it established as a permanent doctrine (*Kampfform*) a method of holding captured ground with the absolute minimum of man-power." The deep and lasting consequences were that the foundation of Schlieffen's tactical doctrine, his fire-power line of resistance, had been proved in the test of battle.

So it came about that early in 1915 a German corps of two weak divisions held successfully a 13-mile frontage which, in terms of infantry, was from four to five times more than that held by a British force of the same strength—20,000 German rifles opposed to 87,000 British.[8] This wholesale replacement of man-power by the new fire-power enabled the Germans to transfer a large force to the East to attack Russia and was to help them to fight a world of enemies for four years.

The British Army set out to fight the first World War with the same organization and battle methods that it had used in the South African War. For many years a perpetual crusade, in which the R.U.S.I. JOURNAL took a leading part, had been waged to arouse the War Office to the fact that an army's tactical methods and battle organization would be revolutionized by the invention of automatic weapons; but the War Office had taken no action.[9] The British trenches in France in 1914/15 were held, in theory at least, by battalions of infantry, shoulder to shoulder, 800 rifles to 800 yards of front, with an equal man-power in rear as local support and reserves. Attacks were to be delivered frontally on wide frontages by extended lines of infantry on the assumption that the enemy was also holding trench lines with rifle fire-power. A break-in was expected to be followed by a dog-fight with the enemy's supports and reserves, and then a break-out and pursuit by cavalry. These were the methods of attack and defence designed for rifle fire-power, and they belonged to a past century.

At Neuve Chapelle, in March, 1915, the British Army met Schlieffen for the first time and began to pay the price for all those pre-war years of War Office inertia. It found itself fighting with rifles firing about 20 bullets a minute and using machine-

[8] British Official History, 1915, Vol. I, p. 88.

[9] See back volumes of the R.U.S.I. JOURNAL 1885 to 1914. As early as 1887 Captain (later Admiral) Lord Charles Beresford pointed out in a lecture to the R.U.S.I., that "it would be a serious matter if the German or any other army took up the machine-gun question and threshed it out, while we neglected it." R.U.S.I. JOURNAL, 1887, p. 970.

guns as supporting weapons against a German Army fighting with machine-guns firing 600 bullets a minute and using rifles as protection for the machine-guns. In terms of words the difference may not seem important, but in terms of action it was like a man with a broomstick fighting a man with a rapier.

Fifteen British battalions were to lead a battering ram of 45 battalions (about 30,000 men) " against a locality held by three German battalions " to quote the British operation order. They were " to carry the Germans off their legs," and two cavalry corps were to go through the gap to exploit the victory. From the point of view of numbers, about 15 to 1, the task seemed easy, especially after the preparatory bombardment had practically annihilated the German outpost garrison in the front breastworks. The breastworks were overrun, but a few hundred yards farther on the battering ram of extended lines of infantry was halted by a withering fire from the three concealed machine-gun nests covering the 2,000 yard frontage of the attack. Thenceforward any British line that rose to advance was mown down like corn by a reaper. Six German machine-gunners, almost unaided, stopped the whole offensive. The experience was repeated six weeks later at Aubers Ridge, when six British brigades (about 22,000 infantry) lost 9,000 casualties before they could even reach the German front trench. That offensive was stopped by about eight German machine-gunners. In both instances the German artillery, with an inferiority of about 80 guns to 300 British, had had comparatively little effect.

By the late summer of 1915 a second row of machine-gun nests had been completed about 2,500 yards behind the front trench and out of effective range of the British field batteries. This second row, like the first, was concealed at ground level, wherever possible on reverse slopes or in folds of ground out of sight of enemy observers. It proved its value shortly afterwards opposite the British front at the Battle of Loos. The German front line and part of the first row of machine-gun nests were neutralized by a cloud of chlorine gas and penetrated by the British offensive. The new second row of machine-gun nests halted it. For example, few men returned of the 1,000 of the 15th Scottish Division who ran cheering over the crest of Hill 70, believing victory to be won. They were pinned to the ground and raked by cross-fire from the machine-gun nests 300 yards down the reverse slope. So, too, with the unfortunate 21st and 24th Divisions, which lost over 8,000 casualties on what German histories have called " the field of corpses of Loos " (*das Leichenfeld von Loos*). The annihilation would have been complete if the German machine-gunners in the three machine-gun nests concerned had not become " nauseated by the sight of the slaughter " and allowed the survivors to return unmolested whence they had come.[10] One machine-gun alone fired 12,500 rounds during that short-lived afternoon attack.

For the Somme offensive in 1916, British Headquarters believed they had found the answer to the German defence. They had asked the workers of Britain to produce quantities of artillery and mountains of shells on the assumption that artillery could destroy all human life and every German machine-gun in the battle-area ; the infantry would only have to mop up the few scraps of German resistance that might remain. On the 1st July, 1916, after a seven-day bombardment with nearly 2,000,000 shells on the 14-mile attack frontage, the task was believed to have been completed.

By that time the Germans had sited a third row of machine-gun nests chequerwise between the two existing rows, and to indicate that this 2,500-yard deep outpost

[10] *Die Tahtik der Machinengewehre.* Von Hoppe, 1936 Reserve Infantry Regiment No. 15 (pp. 226–232). Forstner, 1929.

zone organization was not lightly to be abandoned, as its name implied, it was called the Forward Zone. On that first day of the Somme offensive, the British casualties were over 57,000, most of them in no-man's land.

The Mobile Defence

The character of the German defence continued to alter. The rigid defence of 1914–16 did not conform to the essentially elastic principles of Schlieffen's plan, and the majority of the heavy German casualties had been due to the insistence on holding the front trench-line at any cost in the face of massed artillery fire and regardless of ground conditions. Great argument had raged at German Headquarters as to how to introduce elasticity into this rigid defence and it was due to General Ludendorff, who succeeded General Falkenhayn in August, 1916, and was regarded as one of Schlieffen's most promising pupils, that the old German Army rule of holding fast to the front line ("*Halten was zu halten ist*") was abandoned. Where ground conditions in the 2,500-yard deep Forward Zone, or behind it, suited the combined fire-effect of machine-guns and artillery and the delivery of immediate counter-attacks out of sight of the enemy's observers, the garrison of all or parts of the Forward Zone, if attacked in strength, was to be allowed to fall back elastically, i.e., re-occupying the whole position later if worth the cost. The defensive battle was to be fought for, but not necessarily in, the front line or main line of resistance.[11] The new procedure—the invitation to walk right in (*an-sich-herankommen-lassen*, as the Germans called it)—became the standard method of defence in the German text-book *Conduct of the Defensive Battle* (*Die Führung der Abwehrschlacht*) issued to the German Army in December, 1916.

German Headquarters had many daydreams of enveloping an entire British or French offensive in the grand manner of Schlieffen's Rhine—Moselle pocket. For example, the intention was to entice the French (Nivelle) offensive in April, 1917, to cross the Chemin des Dames unopposed, and then to smash it in the Ailette valley behind, out of sight of the French supporting artillery. So, too, in that same month, it was hoped that the British would follow up their capture of the Vimy Ridge by another large scale attack astride the Scarpe. That offensive was to be enticed out of range of its supporting artillery on the Ridge by pulling back the thin garrison of the Outpost Zone. Then the counter-attack was to go in.

For one reason and another these dreams did not materialize. In the battles of the Scarpe, however, the idea of parts of the Outpost or Forward Zone falling back elastically was successfully developed. In sectors where a reverse slope or fold of ground lay near the front line the fire-power line of resistance was sited along it to be held rigidly ; elsewhere, in intervening sectors, it was sited farther back wherever the ground suited. The result was the formation of a number of pockets up to a mile or more wide behind the front line of outposts. In these pocket sectors the outpost garrison, if attacked in strength, was to fall back or side-step to the flanks, preferably along communication trenches, immediately the barrage lifted. The attack was invited to enter the pockets unopposed and to pass on along the corridors flanked by the machine-guns of the rigidly held sectors until halted by the fire-power line of resistance, and the survivors, counter-attacked from flanks and rear, would be enveloped.

---

[11] German Official History, 1914–18. Vol. 12, pp. 32–60. See also Bauer's *Der Grosse Krieg in Feld und Heimat*, 1914–18. p. 118.

The 12-mile frontage of the Scarpe battles had eight of these death-traps, and during the three British offensives, on the 23rd and 28th April, and 3rd May, 1917, more than 20 British battalions were massacred in them—killed or taken prisoner. In the words of a German regimental history : " It was as if doors into great reception rooms had been opened and then closed again as soon as sufficient guests had entered."[12] The British lost about 142,000 casualties in the five weeks of the Arras and Scarpe battles, about double the estimated German total ; whereas in the Somme battles, fought on rigid defence principles, the German casualties were only about one-third less than those of the British.

A variation of the mobile defence was to leave the pockets wide open with only patrols to watch them by night and with no line of resistance at the back ; the flanking machine-guns of the rigidly held sectors and strong counter-attack forces behind and on the flanks were to suffice to destroy an invader. To make the defence more secure a second position with its outpost, battle and rearward zones—in all four to five miles deep—was marked out about five miles behind the back of the first position, and a third position was sited five miles behind again. Thus a Wotan II and III positions were made ready during the Scarpe battles, though they were not required, and the organization was repeated in Flanders to meet the British offensive in August, 1917. In that campaign, after four months of fighting (August to November, 1917) and the loss of another quarter of a million casualties, the British gained the Paschendaele Ridge which had been given to them as their first day's objective. The ridge marked the back of the Flanders I position ; Flanders II and III still lay ahead.

General Ludendorff's text-book for the attack, issued about the same time as the Defensive Battle text-book, also closely conformed to the Schlieffen pattern. Weak sectors of the enemy's defence were to be blasted on narrow frontages by a short concentrated bombardment with all available weapons, and assault groups, followed by larger battle groups, would then enter deep into the position, making corridors flanked by machine-guns preparatory to the envelopment of the intervening sectors. Both in attack and defence the basic principle of a balanced fighting force, with about one-third of it for the parry or fire-power line of resistance and two-thirds for the thrust or mass of assault, remained paramount.

Experience had shown that many of the changes in organization proposed by Schlieffen were essential. The division, the operational unit, was made smaller both because of the greater frontage covered by its fire-power and to make it more mobile, and it was to be of two kinds—one of fire-power specialists to hold a battle front both in attack and defence, and another of specialist assault troops to operate against an enemy's flanks and rear, both in attack and counter-attack. Another important change was the abolition of the clumsy chain system of command—i.e., the passing of orders from corps to division to brigade to battalion (still practised in the British Army). Instead, divisional commanders were given full authority to fight the battle in their sectors on a general directive from the Army Commander, and front battalion commanders were responsible for the conduct of the battle in their sectors in direct contact with divisional commanders. The other headquarters, corps and brigade, were to act as holding commands for sending up reinforcements and supplies as required.

[12] *Das Inf. Regt. 'Bremen'*. Leuwer, Bremen, 1919.

These changes in tactics and organization were practised at battle schools set up behind the Western Front during the winter of 1916/17. Divisional and battalion commanders were trained for their new responsibilities, and a number of infantry and machine-gun formations became specialists in one or other of their allotted tasks.

Weight of Metal or Tactical Ideas

The great tragedy of the first World War was the persistent failure of British Headquarters to realize that the Germans had a radically different method of fighting a battle. The warning against the German machine-gun nest had blazed like a flashing beacon above the swathes of British dead, but it was not understood. The conviction remained that the Germans were defending trench lines with rifle fire-power, like the British, and were using their machine-guns as supporting weapons. Millions of shells were wasted in destroying miles of trenches of secondary or little importance. The keystones of the defence—the small, well-concealed, machine-gun emplacements —remained mostly intact. They formed pin-point targets and the chance of a direct hit was remote. The red, blue, and green lines, given as successive objectives for the British infantry in massive frontal offensives, followed the trace of German trench lines regardless of ground conditions, and British troops in tens of thousands continued to disappear over the crests of hills and ridges to their doom in the machine-gun killing grounds. Every British attack was an unequal contest between a rifle-minded army against a machine-gun minded opponent.

There were many ways of making an attack other than massive frontal offensives. Apart from the German method of concentrating on narrow frontages, and apart from a better use of the British tank, or machine-gun destroyer, as suggested at the time by its inventor, attacks could have been made with strictly limited objectives to gain nearby observation areas from which the German counter-attacks could have been smashed with observed artillery fire. That procedure was not adopted till the latter half of 1917; and the Messines Ridge battle, and more particularly the later Paschendaele battles on the Gheluvelt Ridge, witnessed its shattering effect on the German counter-attack divisions. Those battles showed conclusively that the destructive effect of the British artillery superiority could have been better used in close tactical co-operation with infantry. The belief that weight of metal could solve all tactical problems and win battles alone, and that the infantry would only have to walk over the devastated area to victory, had proved a fallacy, and the most costly in lives and substance ever followed by a British Commander.

Nevertheless, that British conception of the land battle still persists if the recent lecture of Field-Marshal Montgomery, mentioned above, is accepted as the British-American plan for Western Europe's defence. " Streams of guided missiles and nuclear shells " have replaced the artillery bombardment, and " a deep zone of enemy territory " is to be destroyed instead of only the forward zone of an enemy position. As before, the ground forces are then expected to be able to cross the devastated area to victory. Is not that " new conception of war in a nuclear age," as it is called by the lecturer, simply the old conception in a modern dress ? Have British and American military leaders yet seen the flashing beacons of the two World Wars that blazed the doctrine of the Schlieffen Plan ?

In retrospect, the most interesting tactical development for today from a study of the first World War is that of Schlieffen's fire-power line of resistance, both in defence and attack. It seems to offer a small scale blueprint for modern battle training, both for an expeditionary force and for European defence. A single,

staggered row of nests of modern fire-power, with weapons as small and as easy to conceal as possible, and spaced out over a far wider and deeper area, with deep pockets and, if necessary, wide gaps, may suffice to hold a battle-front. The idea of an invisible garrison (*die Leere des Gefechtfeldes*) still holds good.

Protective infantry will be required as an outpost or advanced guard screen, and also to prevent infiltration at night or in mist, but Schlieffen's compact assault formations on the flanks may well be too vulnerable to air and nuclear attack. They will probably be replaced by mobile reserves of fire-power units ready to encircle enemy attacks or counter-attacks delivered against the flanks or through frontal gaps. Against such a method of attack, based on Schlieffen's doctrine of fire-power, massive bombardments by nuclear weapons or from the air would be as wasteful and ineffective as was the old prolonged artillery bombardment.

The need will be for the close tactical co-operation of all ground and air weapons for the rapid defeat of the opponent's armed forces rather than a random destruction of his territory and cities by weight of metal, which might well result in massive retaliation and the ultimate disaster.

In two further instalments of this article the impact of the Schlieffen Plan on the military tactics of the second World War will be studied in its use both by the German and Russian Armies, and finally its doctrine in relation to the present military problems in Europe will be discussed. Its logical development in the light of modern weapons may well provide a guiding light towards a common understanding for a tactical doctrine suited to a nuclear age.

(*To be continued.*)

MISSILE WEAPONS AND THE FUTURE

By Admiral E. Biörklund, Royal Swedish Navy (Retd.)

SINCE I published an article on " Policy and Grand Strategy " in a number of countries and in various languages, I have come to the conclusion that a more comprehensive article relating to the influence of missile weapons in the near future would be valuable and of public interest. Such a study should assist in counteracting any possible efforts by Russia to create confusion in the world by suggesting that all defence plans are useless. It would also seem necessary to try to throw more light on the near future and to make some indication of the political-strategical problems which are likely to dominate the 1960s. This study, however, should not be of a technical nature; on the contrary, it should take the form of a picture 'seen from above,' a picture taking into consideration the true efficiency of only the most modern types of missiles and rockets.

Let us first look at the important political considerations. The great powers have already reached a state respecting atomic weapons which in Great Britain is known as 'saturation' and in the U.S.A. as 'nuclear plenty.'[1] In the 1960s they will also have 'missile plenty.' As long as it remains impossible to come to any international agreement concerning the abolition of atomic and hydrogen bombs, we must resign ourselves to living with missile weapons. There is an inter-dependence between missile strategy and atomic strategy. The efficiency of a missile depends upon whether or not it can be harnessed to an atomic warhead. But such warheads may only be used if a country decides really to put atomic weapons into action. If not, the missiles must be used with ordinary explosive warheads of a much inferior efficiency.

Missiles have already been used as a means of political threat. During the Suez crisis the Soviet indirectly threatened Great Britain with the use of missile weapons,[2] and in March, 1957, Marshal Bulganin warned both Norway and Denmark against allowing N.A.T.O. bases to be established in these two countries. He pointed out that in the event of war Russia would be obliged to make devastating attacks against the entire network of N.A.T.O. bases. It is quite evident that these notes were an attempt to dissuade the countries in question from going ahead with the establishing of atomic and missile bases, and although the Soviet has always concealed her own missile policy behind a double iron curtain, it is now quite clear that she intends to use her strategical missiles as a means of political threat. Such pressure by notes or radio has since been directed against Austria, Belgium, Iceland, Holland, Greece, Iran, Italy, Japan, Libya, Morocco, Tunisia, Spain, Turkey and Western Germany. Altogether this is a very serious situation and made even more serious by Russia's warning to the U.S.A. concerning the American policy of furnishing her overseas bases with missile weapons. At the same time Russia is prepared to take advantage of the Warsaw Pact to set up her own missile bases in the satellite countries, on the pretext that these countries are not 'abroad.' Soviet unwillingness to liberate these States seems to be based on the fear that if she did so many of them would turn to the West.[3] In this respect Russian policy follows a somewhat insecure course.

The U.S.A. appears to have a 'declaratory policy of massive retaliation' and at the same time another 'action policy' involving the restricted use of atomic and missile weapons.[4] This 'two-tone policy' evidently keeps Russia in a state of uncertainty as to the possible intentions of N.A.T.O. and the U.S.A. at a time of crisis.[5-6] The U.S. missile organization is greater than in the Soviet. The U.S.A.

delivers her missiles and atomic weapons to her great allies but keeps the atomic or hydrogen warheads and charges in her own stores in the different countries. This is in accordance with the existing American laws. Missile weapons have also been offered to the states of South East Asia and to Denmark, to Norway, and to some others.

In March, 1957, Mr. Dulles declared that the U.S.A. would employ atomic weapons in the S.E.A.T.O. Pact countries should this become necessary; this could obviously also include missile weapons with atomic warheads. The American missile policy will be strongly affected by the fact that in December, 1956, the U.S.A. guaranteed the integrity of Pakistan, Iran, Iraq, and Turkey, a guarantee completed later by the Eisenhower doctrine and the American decision to join the military commission of the Bagdad Pact without becoming a member of the Pact itself. To combine the effect of the N.A.T.O., Bagdad, S.E.A.T.O., and A.N.Z.U.S. Pacts and the French interests in Africa with a development of the Eisenhower doctrine is a problem of grand strategy on the Western side, and here the missile problems of the immediate future are of the utmost importance.

It is evident that the East-West struggle for a lead in the missile base race will intensify rapidly and that a new phase of modern warfare must be expected to develop in the next decade.[6-7]

I should like to say something at this point about world missile literature. There are actually more than 300 books in existence dealing with the general technical aspects of missile and rocket weapons. Most of these books are of American origin and some of them are extremely instructive.[8-13] There are also some very good English works,[14-18] and some less modern German ones.[19] A lot of information relating to various types of missiles and rocket weapons is to be found in American, English, French, Russian, German, and Swiss periodicals during the last two years,[20] although Russian works in general on these subjects are few.[21-22] Finally, there are some books on atomic strategy which are relevant to a study of missile strategy.[23-26]

A close study of the influence of missile weapons on policy and grand strategy must be begun by a survey of the largest of these weapons, even if the operational efficiency of these may require years to develop. They can already be used for missile threat, or what the Americans have called ' missile blackmail.'

The inter-continental missiles are of two kinds; ballastic missiles (ICBM) and strategical missiles (SM) of the aeroplane type (see Appendix I). These types of missiles are not yet operational but almost certainly will be by 1963–65. The types best known today are the American Atlas, Titan, and Snark, and the Russian T4-A and T3. These missiles are believed to have a lateral and range deviation of something like six to eight miles over long distances, and so can be used as threats against very large targets, such as big cities, etc. Most of them are steered by means of celestial guidance (the star tracking system for instance) or by other means such as gyroscopes. A computer does all the necessary mathematical work in setting the weapon on its desired course.

If we stop to consider that the distance from the American base of Thule in Greenland to Moscow is about 2,500 nautical miles and from the Russian base of Anadyr in North Siberia to Washington is about 3,500 miles, it becomes quite clear that within a few years it will be possible for the Western Powers, from Newfoundland, Greenland, Alaska, and Western Europe, to reach and attack from both directions every point in China and Russia, and for the Eastern Powers, from Poland, Anadyr,

and Turkestan, to reach and attack from both directions every point in Northern and Central America, Europe, Asia, Australia, and Africa. Only the southern part of South America would seem to be out of reach. The missile tested by Russia in August, 1957, seems to have been the T-4A, while U.S. reports in September indicate that the Atlas was successfully tested in a flight of " some thousands of miles."

The intermediate range ballistic missiles (IRBM) generally have a range of from 500 to 2,000 miles, and their ' hit probability ' over moderate distances is considerably more reliable than that of the ICBM. These smaller missiles may be used for all kinds of operations in time of war, especially for bombing enemy air bases and other military targets. They are the long distance artillery of the future. The American defence system will soon be well equipped with various types of these weapons, such as the Thor, Matador, Regulus, and Polaris, and Great Britain will also be supplied with IRBMs. Sources of information in America and Great Britain inform us that the Soviet has a 600-mile IRBM which is operational, and that during 1957 they will be testing out a 1,500-mile missile. After the last war German scientists were taken to Russia, the German factories were carefully examined, and missile construction plans were confiscated in Berlin and elsewhere. At present Russia has missile factories at Peenemünde, Nordhausen in Thüringia, near Leningrad and Kiev, in Eastern Germany at Erfurt, Leipzig, and Zwickau, at Tomsk and Irkutsk, and in Turkestan. Thirty-three launching bases and 12 missile development centres complete the system. Russian utterances underline the fact that her IRBMs are specially aimed at bombing American air or missile bases around the Soviet and Chinese territories, and Bulganin's policy of threat seems to be principally backed by these weapons.

Ship and submarine type IRBM missiles can reach every part of the world from appropriately positioned vessels. This development will result in a new form of sea-air strategy which I shall attempt to deal with later on, but it must be understood here that the IRBM with its considerable range will have the greatest influence of all on practical policy and grand strategy.

The IRBM is usually equipped with a self-homing device which functions from the time when the missile comes within a certain distance of the target. This system, however, is not infallible. Admiral John E. Clark, director of the U.S. Navy's missile weapon organization, has pointed out the necessity of finding a way of getting over the blocking or decoying of a missile by enemy radio and also of constructing an interceptor robot to operate against enemy missiles flying at a great height.

The remaining types of robots and missile weapons with a range of less than 500 miles will be studied from an operational point of view in connection with the new forms of land, sea, and air warfare.

For some years air warfare is likely to consist of combined aeroplane and missile weapons. In each case either aeroplane or missile will be selected as an intsrument, though it is generally believed that in a few years missiles will take over the greater part of the offensive action.

In each operation it is probable that a struggle in the air will be the first phase of an air attack where the supersonic fighters and missiles of the defenders will attempt to diminish the attack before the ordinary anti-aircraft weapons join in the defence. As soon as the first radar reports of an attacking force are made, jet interceptors and other aircraft will climb to the attack and launch their missiles or rockets. On the American side there is the Bomarc and Scorpion, while Sabres equipped with pairs of Mighty Mouse will join in later. Over shorter distances there is the Falcon and the

Falconet. On the English side fast fighters will attack with the Sparrow, the Sidewinder and the Ding-Dong, while Falcons and others will complete the defence.

There is every indication that the West is superior in the above category of weapons, though it must be acknowledged that information relating to Russian types of interceptors is considerably lacking. Nevertheless it is clear that weapons designed for an early counter-attack—known as ' air to air '—have developed so rapidly that a successful bomber attack is now more difficult than ever before, provided of course, that radar warning is given in good time. It is for this very reason that in the future missile weapons, which are so much more difficult to divert than aircraft, will play the greater part in bombing operations.

Air warfare with ICBMs and IRBMs may easily be understood by most people but some details must be clarified. It should be realized, for example, that the missile does not need to make contact with the target since it is exploded by a proximity fuse, and thus missiles with atomic warheads have a much greater ' kill-probability ' than others.

The category ' air to surface ' includes some of the weapons used for ' air to air ' conflict. The American Rascal and Tarzan are said to be employable against land targets. Many of the American interceptors mentioned above carry rockets for use in land warfare. And this is also true of some British, French, and Russian interceptor weapons. The Soviet is said also to have patented a winged rocket bomb of unknown capacity.

' Air to ship ' weapons are numerous. The difficulty of attacking missile-defended fleets with bombers has already influenced strategy and tactics, but such a form of attack cannot be entirely overlooked, particularly if the missile defence system is relatively weak.

Sea warfare will become more complicated than hitherto. Ship to ship battles would involve the use of directed sea missiles of great range, their fire being directed by radar or radio. American ships would use the Regulus II, Tartar, Sidewinder, and Sparrow, and would project the Goose and Petrel against submarines. American submarines would launch the Goose against enemy surface ships and American naval aircraft would employ the Petrel against enemy ships. Britain would use her newly constructed sea-missiles and aircraft rockets. The Russian Navy has already a V2 type rocket (the J-2) for use from ship to ship, while her protection against air attacks will be based on types of the Wasserfall and possibly the Taifun. The Russian torpedo robot, the Comet-1, is said to be effective only against large shore targets, but would be a serious weapon when used to attack towns and bases well inland. In a sea battle it would not be entirely out of the question to envisage the sudden emergence into the air of missiles launched from beneath the surface, as was the case in 1944 when German V2s were fired from a well-protected underwater station in the southern Baltic. There are many types of missile today that are capable of passing through the water without any difficulty whatsoever.

The West will undoubtedly take advantage of its position at sea by sending task forces of aircraft carriers, robot carriers, cruisers, and destroyers to the coasts of the seven seas in order to destroy towns, harbours, and submarine and missile stations as far as 1,000 miles inside enemy-held coasts. This will become a very important sea-air strategy in the future. The West can launch missiles against the whole chain of Russian atomic mines and missile factories from Archangel to Caucasia and the

Baikal Lake. Nor must it be forgotten that Russian submarines armed with missiles can enter into the war at sea, attacking enemy coasts and complicating the anti-submarine war and Western convoy protection.

In the American sea-air strategy the Regulus, Polaris, Talos, and Skywarrior can be used by her cruisers, and the Tartar and Skywarrior by her destroyers. Within a few years we must reckon with a new phase of sea warfare when atomically-powered Russian submarines with schnorkel-observation, self-homing torpedoes, and missile weapons will call for serious measures from the Western side: intensifying anti-submarine warfare, convoy dispersal systems, flying radar pickets, helicopter service, and missile weapons on escorting warships.

The acknowledged fact that ships and fleets have considerably enlarged their defence systems against air attacks will inspire a new offensive spirit in naval warfare. The risks of a successful enemy missile attack against ships at sea is now much smaller than is generally believed. Ships travelling at high speed and following a zig-zag course will make it difficult for a missile to come sufficiently near to its target for the homing device to function, i.e. the 'lock-on range.' Also the fact that a target-seeking missile is unable to distinguish between a ship and high land will make it ineffective against ships near a high coast line. The possibility of mounting missile weapons on small ships will be an advantage to smaller countries, and more and more cruisers, destroyers, and submarines in the big navies of the world are being re-designed to accommodate these weapons.

Land warfare will be revolutionized by the great distances over which artillery support can be used. Operational bases of great importance will be open to attack by missiles instead of bombers. It is obvious if we consider, for example, the U.S. weapons such as the Jupiter, Matador, Redstone, and Corporal, for use over very great distances, and Honest John, Lacrosse, Dart, Tarzan, and perhaps Terrier, for more tactical purposes, that in the event of another world war vast changes would take place in the conduct of land warfare. Great Britain, too, is stepping up her supply and production of the above types of missiles. The Soviet has its V2 type missiles, known as the T1, T5, T6 and later on, T4, T7, and T7A, besides anti-aircraft artillery, the rocket piano Katjuschka, and a great variety of large rocket weapons. One wonders just what a modern war would be like under these conditions.

Combined with new principles of atomic strategy,[23-26] just how will this terrible increase in fire-power be used in the 'surface to surface' war? The principles of atomic strategy must be taken into consideration if a country is to use missiles with atomic or hydrogen warheads. It is quite evident that utilizing these weapons in land warfare will call for a new system of organization and equipment. This will necessitate the adoption of helicopters and television-planes, and new means of reconnaissance and communication. The use of weapons such as the Redstone and Corporal will have to be planned and organized in smaller formations. At the same time a great dispersion and mobility will be needed as a defence against atomic and missile weapons. It is interesting to note that the U.S. Army has a whole helicopter fleet for use in the transportation of missiles to the desired launching place in the event of a land war. These will be of great value in the carrying out of combined landing operations.

'Surface to air' is an important type of missile weapon. The first condition of a good defence is a two or three chain radar system with, in the case of countries of a maritime character, one chain as far out to sea as possible. The U.S. air defence is

made up of the Bomarc, Talos, Tartar, Nike-Ajax, and rockets, as well as fighter aircraft. The automatic transmission of war-observation, the launching of missile fighters, and the readiness of anti-aircraft artillery would seem to be excellent, but naturally it is impossible to defend the entire U.S.A. in this way. Meanwhile American books inform us that the defence of 16 important areas is complete and that this system will be enlarged. The defence of Great Britain and France consists of a quantity of weapons which are shown in Appendix I.

Air defence in the Soviet is evidently not so complete and this is due to a large extent to the vast areas which they have to defend. Russian periodicals often dwell on the necessity for a more comprehensive radar system and a better defence of the important towns and industrial centres. First-class fighters, combined with Wasserfall, Schmetterling, and Rheintochter type missile weapons, seem to form the backbone of the Russian air defence system in the more important centres. It is reckoned that some of these weapons can be directed from their bases over distances of up to 20 miles.

The weakness of air defence on both sides lies in the fact that no weapons are efficient against the enemy's ICBMs and IRBMs. Experiments directed at creating new anti-missile defences are still going on and it is not too much to hope for new discoveries. In the category of ' surface to ship,' it may be mentioned that both sides have some types of intermediate or smaller missiles for coast artillery services on the sea fronts. It is possible that the Russian T7-A can also be used on the coasts.

Conclusions on the Influence on Policy and Grand Strategy

The tendency to belittle the importance of missile weapons is based upon an exaggeratedly conservative mind. The very fact that every nation in the world could be within the firing line makes this evident. The actual theatres of operations will be greatly enlarged in all directions by intercontinental and intermediate missiles. The necessity for the great powers to extend their radar chains will mean that they will seek to install them in other countries than their own. This will make it more difficult to establish a limit between strategy and tactics, and will aggravate the problem of reaching an international understanding concerning ' limited warfare.'

The significance of surprise attack will increase immensely when a large missile is capable of crossing the Atlantic or the Pacific within about half an hour. All this will make easier a policy of missile blackmail and every country will be faced with the bitter necessity of meeting such a threat with defensive missile weapons. This in itself should deter the leading statesmen among the great powers from resorting to the international policy of threat. The Soviet's threat policy is made with the intention of weakening the defence of her neighbours.

The development of missile weapons and the increasing impracticability of large scale invasions may radically influence future methods of aggression and stimulate the aggressor's endeavour to bring the defender to submission by air threat, air attack, and blockade. A means of defence to counteract these relatively simple methods of aggression must be perfected, and land forces must be available at all times for use against airborne troops.

Air attacks against production and population will be carried out by a variety of missile weapons probably supported by precision bombing from piloted aircraft though, if the air defences of the country are good, the advantages will quite obviously

lie with the missiles. In relatively small theatres of war minor missile weapons might well be used as a form of terror warfare, while the possibility of striking at targets on and behind the coast from surface ships and submarines will make it necessary for the defenders to keep these floating platforms well clear of their coasts. This is particularly important in countries where the coasts are densely populated.

Economic warfare will take new forms in respect of sea, air, and land communications. Intensified submarine warfare against commerce and transport at sea will call for better naval protection. Unrestricted submarine warfare will create great difficulties in policy and strategy not only for those countries involved in the war but also for neutral states. Radar picket ships and submarines, high-speed naval units armed with missile weapons, helicopters, and television reconnaissance, all these things will be required to protect the shipping routes.

Land, sea, and air invasion will be more difficult as long as the defenders have recourse to effective missile weapons. President Eisenhower has already expressed the opinion that had the German missile production been six months more advanced, the Normandy landing would not have been possible. It may be argued that the West could have made the landing following heavy attacks upon the German missile stations and factories, but this in itself indicates that the future of major landings will be more difficult than was the Normandy landing. Small, well-covered sea invasions, such as were made by the Americans in the Korean war, are still possible but opposition must be anticipated in the form of some types of missile weapons against any form of air invasion. A modern invasion operation must be extremely well-protected and widely dispersed if the defenders are in possession of missile and atomic weapons. Any such invasion in the future would have to be supported by missile-equipped warships, which could be brought into action not only against coastal areas but also against targets hundreds of miles inside the coast.

Land invasion in the face of a well-organized defence with atomic and missile weapons will also be far more difficult than ever before. The advantages of missiles over aeroplanes are various: higher efficiency for the same cost, greater range with no return to base, no need for fighter escort, smaller launching fields which are easier to defend and to conceal, and finally no loss of flying personnel when the enemy is known to have an efficient air defence system. All these points are in favour of the missile, though at the same time it should be realized that missiles are by no means cheap weapons to produce.

The need in war of new missile bases, some of which will be secret, will create political and strategical problems of great importance and will call for a closer survey of the question of territorial waters in order to establish the maximum defence against enemy submarines.

Although the East would seem to have an advantage with their missile weapons by virtue of their central geographical position, it should not be forgotten that it is generally an easier matter to protect movable transports at sea than to protect fixed lines of transport on land. Thus the powers which are able to safeguard their sea communications to some extent will have the advantage of being able to utilize their mobility for an offensive sea-air strategy.

Conventional forces of all kinds must be equipped with defensive missile weapons in order to maintain the balance with any eventual enemy. These forces

must also be complemented with advanced chains of radar stations which are effective even against single attacking aeroplanes and missiles. Meanwhile it is a question of grand strategy in each country whether or not missiles with atomic warheads should be used.

It has been said that the introduction of missile weapons calls for a very considerable change in political thinking, and that these weapons will produce a situation of increased uneasiness and uncertainty. It should be realized, nevertheless, that if the U.N. or N.A.T.O. could develop a system which would counteract the possibility of Russian aggression, then these weapons could become a stabilizing factor in international policy.

If, on the other hand, the Soviet contrived successfully to invade Western Europe and to establish powerful, well-concealed missile defence bases, it would make difficult a European landing of the Normandy type. These circumstances would make it necessary for the West to adopt a new grand strategy based on aircraft attacks and on a sea-air strategy with mobile missile bases and a series of peripheral combined operations in all the important seas to the north, south, west, and east of the Russian-Chinese continent. This would mean, as in the case of the great plan against Germany in 1945, a grand strategy similar to the circular pincers with many peripheral teeth. It would be grand strategy utilizing strategical sea and air mobility.

A study of 30 years of Russian policy and strategy has convinced me that Russian grand strategy is based on the continental way of thinking, as it always has been. They think in terms of their central position in the world combined with a population of untold millions. If this attitude is maintained along with the new conditions brought about by an atomic and missile age, it seems to me that future Russian grand strategy will be aimed at a development on land in the Middle East and Southern Asia which would successfully divide the world into two parts; in the Eastern hemisphere a relatively small Western Europe and Africa and in the Western hemisphere the whole American continent. Such a plan would ultimately enable the Soviet to use Africa and Northern Europe against Western Europe, and later on Southern and Central America and the Far East against the U.S.A.

In view of all this it is evidently essential in this age of missiles not to allow Russia to gain ground in Europe, the Middle East, Southern Asia, or Africa, from where she would be able seriously to threaten the West's communications and its political and military planning. An Eisenhower doctrine to repair the British and French loss of prestige in the Suez affair is badly needed and must be made thoroughly efficient.

It is the policy of the aggressor always to attack the weaknesses of the defender, and because of this it is necessary to develop a well-balanced system, to have missile weapons with which to meet political threat, and to have land, sea, and air forces modernized and fully operational. Missile weapons are the best means of defence against high-altitude, supersonic aircraft, just as they are the only means by which we may ultimately defend ourselves against other missile weapons. The necessity of meeting all these new requirements will certainly never be cheap, but what has happened within the Russian orbit during 1957 will perhaps make it clear to the Western European countries the immensity of the idealistic, psychological, and material values which they will have to safeguard in the future.

APPENDIX I

MISSILE WEAPONS TODAY AND IN THE NEAR FUTURE

The numbers in brackets indicate: the first one the range in nautical miles and the second in kilometres.
Weapons which at the beginning of 1957 are "under development" have a "d" at the end and those in production a "p."
Weapons which are already operational are in italics.
It must be remarked that all numbers must be considered as approximate, because of different returns in accessible sources.
The range in standard miles can be calculated by multiplying the first figure by 1.15.

No.	Type	U.S.A.	Great Britain	France	Soviet
1	Intercontinental missiles (ICBM and SM).	*Atlas* (4900, 8800), d; Titan (4400, 8000) d, and non-ballistic strategical missiles (SM), and *Snark* (2200, 4000) p (more vulnerable than ICBM).	A missile in experiment (A. V. Roe).	—	T-4A (or M-102) (4-8000, 8-15000) in development, in the Soviet called "the space bomber," and T-3 (sometimes called M-104), (4200, 7500) d, may be ready in 1958-60.
2	Intermediate (IRBM and SM)	*Thor* (1400, 2500) d, Regulus II (900, 1600) p, and Polaris (1500, 2700) d, *Matador* (550, 1000). Jupiter (see No. 9) may be added to this category.	Armstrong-Whitworth experimental types.	—	T-2 (or called M-103) (1500, 2700), said to be in production.
3	Air to air.	*Bomarc* (250, 450), pilotless, sends out small missiles, whereafter it returns to base automatically. Aircraft as Sabre and Scorpion fire bundles of *Mighty Mouse*, others fire robots as *Falcon* (5, 10) or *Falconet* (4, 8), naval aircraft fire *Sparrow* (5, 9), *Sidewinder* (10, 18), a new Ding-Dong, d.	*Fireflash*, experimental types and American types, *Firestreak*.	Three types from Matra and Sfecmas, SNCAN—5103.	M-100 A, rocket fires from airplane (4, 7), a new Messerschmitt type, the I-2, firing bundles of rockets.
4	Air to surface.	Some of those mentioned and *Rascal* (100, 180), Tarzan, d, Bullpup, d. These missiles start from aircraft which turn before coming into the zone of anti-air-artillery.	Rockets.	Above mentioned and *Entac* (1, 2).	M-100A, said to be used also against surface targets.
5	Air to ship.	*Rascal* (100, 180), Dove d, Bullpup d, against ships and submarines. *Petrel* (10, 18) from aircraft against submarines.	New types for anti-submarine war.	—	A winged rocket-bomb.
6	Ship to ship.	From cruisers a catapult-started Regulus II (900, 1600), p, *Tartar* (14, 25); from destroyers, *Talos* (72, 130), *Terrier* (13, 24), from ships *Petrel* (10, 18) against submarines, a new Goose, d, from ships and submarines. A type of Polaris for submarines, d.	Seaslug.	Masalca and Marnea.	J-1, said to be less modern, *J*-2 (600, 1000) on cruisers, perhaps on some submarines, J-3 (1600, 2900) p. Said to be constructed for ships and some submarines.
7	Ship to surface.	*Regulus II* (900, 1600) p, Polaris (1500, 2700) d. A smaller *Regulus I* (450, 800) even used in submarines, *Talos* (72, 130), *Terrier* (13, 24), used against land targets. Some ships use *Skywarrior* with rockets. Regulus I is used on more than 10 ships.	American types and anti-air-artillery.	SE-4200 (55, 100).	*J*-2—see above. *Comet*-1 (85, 150) from submarines, is said to be ready soon. Comet-2 (600, 1000) d, requires some years for production.
8	Ship to air.	*Talos* (72, 130), *Terrier* (13, 24), *Tartar* (14,25), Sparrow (5, 9), *Sidewinder* (10, 18).	A Taifun-type? Anti-air weapons, Seaslug.	Some of types mentioned above.	A Wasserfall-type (28, 50) and Rheintochter-type and a rocket of Taifun-type, anti-air-artillery.
9	Surface to surface.	Jupiter (830, 1500 d, *Matador* (550, 1000), *Regulus I* (450, 800), *Redstone* (270, 480) p, *Corporal* (100, 180), *Honest John* (20, 36), *Little John* (2, 4), anti-tank missiles Lacrosse (8, 15) p and Dart p.	American types (the *Redstone*, *Corporal* and *Honest John* have been mentioned, not decided yet).	SE-4200 (55, 100), *Entac* (1, 2) anti-tank missile and a Sfecmas-type.	*T*-1 (M-101) (350, 630), T-4 (M-102) p, *T*-5, *T*-6, artillery and anti-tank weapons (4, 7), *T*-7A (50, 90) and T-8 d.
10	Surface to air.	*Bomarc* (250, 450), *Talos* (72, 130), *Tartar* (14, 25), *Nike-Ajax* (15, 27), Nike-Hercules, p, *Terrier* (13, 24). In research anti-missile missiles and rockets.	Nike-Ajax (15, 27) types in experiment and anti-air weapons *Thunderbird*, *Bloodhound*.	Parca, p, and Veronique, p, SE-4300, p (16, 30).	*M*-1 seems to be an older type. *T*-7 a modernized Wasserfall for important places and T-8, d.
11	Surface to ship.	Coast missiles of different types, atomic artillery, rockets.	Coast missiles.	Coast missiles.	Coast missiles and T-7A.
	Proving grounds.	Florida-St. Helena (5000, 9000), in Caribbean Sea, in New Mexico, in California and a lot of smaller grounds.	Hebrides-Greenland and grounds in Australia.	In Algeria-northern Sahara.	Along the Siberian north coast, at Behrings Sound, Barents Sea, at Kronstadt, Sverdlovsk and east of Caspian Sea (Ust, Urt and Karakumi).

REMARK 1: Old types as Stooge, Lark, Loon, Lokl, MX 904, Hs 294, Oriole, and others are not mentioned. The Swiss *Oerlikon* (12, 20) is used in many countries. Some missiles (as Regulus) can be recovered and used many times which gives better economy.

REMARK 2: The U.S. Army may not have missiles of longer range than 200 miles. Jupiter will perhaps be given to the Air Force or sold abroad. Redstone is sometimes called Jupiter A, while Jupiter C is the type mentioned in 9 above. U.S.A. has considerably speeded up its production of ICBM and IRBM during 1956–57.

REMARK 3: The geophysical year 1957–58 will see competition for a space missile, U.S.A. preparing the Vanguard, the Soviet its T-4A, and Great Britain a smaller type.

REMARK 4: The Russian types I-1, T-3A, Pol-1, Pol-2 are research types. The expression missile is in Russian "snarjád," rocket "rakéta," guided missile, "opravljájemy snarjád," air-defence-missile "zénitny snarjád," and far-distance-rocket (a Russian speciality) "daljnobojnaja rakéta."

Sources

The following sources have been of special value :—

1. James E. King : *Nuclear Plenty and the Limited War.* Foreign Affairs. January, 1957.
2. *Pravda* and others, 6th–9th November, 1956, *The Times* and *New York Times*, 6th November, 1956 ; Bulganin's note of 5th November contained a statement to the effect that the Soviet " had decided to oppose the aggression against Egypt and restore peace by means of force," the statement continued to the effect that there were now countries who did not require to send sea or air forces against Great Britain since these countries could employ other means such as robot weapons. Bulganin warned Eisenhower that if the war in the Middle East was not stopped there was a danger of it developing into a third world war.
3. Henry L. Roberts : *The Crisis in the Soviet Europe*, Foreign Affairs. January, 1957.
4. P. M. S. Blackett : *Atomic Weapons and East-West Relations*, Cambridge, 1956.
5. Paul-Henri Spaak : *The West in Disarray*, Foreign Affairs, January, 1957.
6. Hanson W. Baldwin : *The New face of War*, Bull. Atom. Scient. May, 1956.
7. P. Barjot : *Vers la marine de l'âge atomique.* Paris, 1956.
8. Grayson Merrill and others : *Principles of Guided Missile Design*, New York, 1955 (a standard work).
9. Kenneth G. Gatland : *Development of the Guided Missile*, London, 1954.
10. Frank Ross Jnr.: *Guided Missiles* : *Rockets and Torpedoes*, New York, 1954.
11. Army Information Digest, Alexandria, Va. U.S.A. December, 1956. (Very interesting.)
12. Nels. A. Parson Jnr. : *Guided Missiles in War and Peace*, Cambridge, Mass. U.S.A., 1956.
13. J. N. Leonard : *Flight into Space* (life at U.S.A.'s missile bases) U.S.A., 1955.
14. John Humphries : *Rockets and Guided Missiles*, London, 1956.
15. A. R. Weyl : *Guided Missiles*, London, 1949 (historical interest and an article in *Flight*, May, 1956).
16. Jane's *All the World's Aircraft*, 1956–57 (very good information on different types).
17. Brassey's Annual, 1956 (some complementary information).
18. Liddell-Hart : *The Soviet Army*, London, 1956 (p. 437, Russian naval missile).
19. W. Dornberger : *V-2, Der Schuss ins Weltall*, Esslingen, 1953.
20. American and English Aviation weeklies, French, Russian, German and Swiss (Interavia) periodicals 1955–57 and press information in different languages.
21. B. J. Goroschtschenko : *Aerodinamika skorostnavo samoljota*, Moscow.
22. The Russian Missile specialist K. E. Tsiolkovsky : *Trudy po raketnoitechnike*, Moscow and B. V. Liapunov : *Samoljóta-Rakéta—Snarjád*, Moscow.
23. Colonel G. C. Reinhardt : *American Strategy in the Atomic Age*, Oklahoma, 1955.
24. Miksche : *Atomic weapons and Armies*, London, 1954.
25. P. Gallois : *The Policy and Strategy of Air Nuclear Weapons*, Bull. Atom. Scient. 1956.
26. James Clayton : Journal Inst. Mech. Engineers. January, 1956.

Jupiter A, while Jupiter C is the type mentioned in 9 above. U.S.A. has considerably speeded up its production of ICBM and IRBM during 1956–57.

A PRISONER OF THE CONFEDERATES

By Air Vice-Marshal W. M. Yool, C.B., C.B.E. (Retd.)

I RECENTLY came across, in a jumble sale, a book[1] by Brevet-Major George Haven Putnam, Adjutant of the 176th New York Volunteers, describing his experiences as a prisoner of the Confederates during the last Winter of the Civil War. The book gives a vivid and interesting sidelight on conditions in the Confederacy in the closing stages of the war for, although written many years after the events it describes, it is clear that the author had forgotten little of the experiences of his youth and that they had left a lasting impression on his mind.

Major Putnam was taken prisoner in the early hours of 19th October, 1864, a day made famous for the North by Sheridan's decisive victory at Cedar Creek. As is by no means unknown in warfare, Putnam was captured as a result of an entirely unforeseen move by the enemy. The Federal line faced southward, the only direction from which an attack seemed possible, though it was difficult to believe that any attack was to be expected, even from so plucky and persistent an opponent as General Early, the Confederate commander. Within the preceding 30 days Early's army had been sent whirling through Winchester and had been driven back from its works on Fisher's Hill with a serious loss of men and guns. It certainly seemed most unlikely that these beaten, tired, and hungry troops would venture to attack Sheridan's lines.

But attack they did, and although they lost the battle in the end, it was too late to save Major Putnam and his men from capture. They were aroused in the foggy darkness of that early morning by the sound of firing on their left flank, a direction from which no enemy attack had been thought possible and to meet which no preparations had been made. As a result all was confusion and in attempting to save a gun Putnam and his companions were cut off. For the few minutes before they were actually taken prisoner they were lying down on some flat ground exposed to the fire of both sides, and Putnam describes the uncomfortable feeling, known to many warriors, of feeling that he was " swelling upwards as big as an elephant " as they heard the zip, zip of the balls going over their heads.

Before being taken prisoner Putnam had the presence of mind to hide his sword in a cleft of rock and to throw away the cylinder of his Remington revolver so that they would not fall into the hands of the enemy. The first ' Butternut,' as they called the Confederate soldiers, with whom Putnam came in contact was a little excited, having possibly " gotten hold of a drop of 8th. Corps whiskey," and when he found the revolver had no cylinder he was a very mad rebel indeed. He ordered the " damned little Yank " to find the cylinder and Putnam, who by this time would not have known where to look for it, was in danger of being shot out of hand but was rescued by an officer who came up at that moment.

Some thousand prisoners in all were taken in this action, and as soon as they had been collected they were stood in line and thoroughly searched. By this date in the campaign the Confederates, largely owing to the success of the Northern blockade, were in serious straits and everything that could be of any possible use was taken from the prisoners. The articles collected included overcoats, blankets, watches, knives, money and, what was worse for men who had a long march to captivity in front of them, their shoes.

[1] *A Prisoner of War in Virginia*, 1864–65, by George Haven Putnam. Published by G. P. Putnam's Son, The Knickerbocker Press, 1912.

About two o'clock in the afternoon they were formed into a column and started on a three-day march to Staunton, where they entrained for Richmond. The Confederates had forgotten to give their prisoners any mid-day meal and there had been no time for breakfast before the fighting started in the early morning, so that most of the men were very hungry. During one of the short rests allowed on the march the brigade dog who, very unwisely for himself, had followed the line of march, was ' taken possession of ' and shortly afterwards was helping to keep some of the men going. As Putnam puts it he did not know how he would have been able to hold up for the afternoon if it had not been for his share of the dog.

During the march Putnam and one of his companions managed to slip from the column and hide in a ditch near the road. Unfortunately, by this time Early's troops were in full retreat and were in such a hurry that they not only filled the road but straggled along in the fields as well. Before long some of them tumbled into the ditch on top of the two Yankees and that was the end of their attempt to escape. But Putnam preserved his sense of humour, " Our state of mind was in fact like that of South Carolina three years earlier ; we only wanted to be let alone." Instead they were butted back on to the road and hustled along until they rejoined the column of prisoners.

Once in Richmond the officers and men were separated, the officers going to the Libby Prison. Although they were not badly treated, conditions were very rough owing to the shortage of supplies. In addition to their clothes, Putnam and his friend shared between them as their joint property a small piece of blanket, a broken pocket knife, a tin cup, and a pocket comb. They had also their toothbrushes, which placed them in the aristocracy of prisoners, as out of 350 or so officers only about a dozen still had them. They wore them in the buttonholes of their blouses, partly because it was the only convenient and safe place and partly to emphasize a sense of aristocratic opulence. So highly regarded were these toothbrushes that a Confederate officer offered Putnam $300 for his, although admittedly in Confederate currency which was no longer of much value. When Putnam expressed surprise at the high price offered, the officer paid an unthinking tribute to the effectiveness of the blockade when he said, " Well, but you see now we cannot get any more."

Food was becoming increasingly short in the Confederacy and most of the inhabitants of Richmond and Danville, to which the prisoners were transferred later as the tide of battle approached Richmond, were near the starvation line. Not unnaturally the prisoners were even worse off, and their ration consisted of a soup made out of inconspicuous little beans and a chunk of corn bread. Later still the soup was cut off and the ration reduced to the bread only. Each portion of bread was intended for two men, and in order to prevent any ill feeling Putnam and his friend took turns in cutting the chunk into two pieces and decided by lot who was to have which piece ; " but even so, whichever piece one got the other always looked a little bigger."

A sketch made at the time and reproduced in the book shows how crowded was the accommodation. Four rows of men on what they called the sardine system (two rows with their heads to the walls and two rows with their heads to the centre) completely covered the floor area. In this restricted space the prisoners had to spend most of their time, as there were no arrangements for organized exercise. The only occasions when they got out were when going to the latrines in the yard or when on water fatigue.

Living under such conditions and on starvation rations, the health of the prisoners and their morale were at a low ebb and there were many deaths. Although the officers and men were confined under exactly the same conditions, the percentage of deaths among the men was much higher. Putnam puts this down to the fact that by the closing stages of the war the Federal officers were recruited largely from the ranks from men who had shown their capacity to lead in the hard school of war. As a result the officers were on the whole of better education and intelligence than the men who remained in the ranks; this meant that their standards of discipline were higher and they possessed more will power. It was this will power, the determination to live if possible, the unwillingness to give up, that helped during the last Winter of the war to save the lives of many starving officers.

During the first years of the war there had been a regular exchange of prisoners, but when Putnam was captured these exchanges had been suspended for some time. There were two reasons for this. One was that the Southerners refused to agree to the exchange of negro troops who had been, or might have been, slaves, and Lincoln very properly took the view that all United States soldiers must be protected alike. The other reason was the military one that the Federal War Secretary, Staunton, refused to hand over to the Confederates, who were in serious straits for manpower, 70,000 able bodied men who were well fed and looked after in the Northern prisons in exchange for men who, with but few exceptions, were in poor condition and would no longer be able to take their place in the line. In the end Staunton was over-ruled, following pressure brought upon Lincoln by the distressed relatives and friends of the men held prisoner in the South.

As with prisoners throughout the ages there were many attempts at escape. The first in which Putnam took part ended in tragedy. From their windows the prisoners could see over the prison wall and one day saw a company of about 150 troops on the march go into the prison guard-house for their midday meal, leaving their muskets stacked outside and unguarded. One of the prisoners conceived the idea of seizing these muskets and fighting their way out of town, but before the guard on the gate could be over-powered the alarm was given and many of the prisoners were shot down from the wall. Among these was the ringleader who, in answer to a question from his friends as to the extent of his hurt, likened himself to Mercutio and replied, " It is neither as deep as a well nor as wide as a church door, but 'twill do." He died that night.

The next attempt at escape, though no more successful, had a comic ending. The prisoners tried to make a tunnel from the basement of the prison to a ditch outside the prison wall, but, unfortunately, as they had no means of checking the levels, the tunnel came too near the surface and one of the guards on night patrol fell through. Thoroughly frightened he yelled murder and the guard next to him fired off his piece. In the confusion that resulted this was followed by a general firing of pieces into the darkness under the mistaken belief that the Yankees were attacking the town. That ended the tunnel scheme.

Another method proved more successful, for when on water fatigues a man was able to slip away on occasion as a result of lax supervision. There was no roll-call by name, only a counting of heads morning and evening, and an ingenious scheme was devised to produce the right numbers. The prisoners were housed on two floors and a trapdoor was cut in one corner, with a sick prisoner lying on it to conceal it. The sergeant who called the roll did so first on the lower floor. He would then be delayed on some excuse on the stairs to the upper floor, whilst men equivalent to

the number who had escaped were hurriedly passed through the trapdoor to make up the count on the upper floor.

This ingenious scheme lasted for some time, but became more difficult after four men had escaped in this way owing to the time it took to pass their substitutes through the trapdoor. Even so the scheme was only discovered when one of the escaped prisoners was recaptured in a town some distance away and said he came from Danville. The commissary of prisons then asked the commander of the prison why he had not reported this escape, to which the commander replied that there must be some error or the Yankee was lying, as he had all his prisoners in hand. A week or two later, however, another prisoner was recaptured and this time the commander said he would do the counting himself. To avoid any possibility of mistake he put all the prisoners in one room and went over the ranks man by man. As Putnam puts it, " when he found that there were four Yankees short, he was a very excited lieutenant-colonel indeed." He then gave them an address, speaking with tears in his eyes, of the pains he had taken to make them comfortable, and reproached them for being so ungrateful as to assist their friends to escape. His indignation that there should be any dissatisfaction on their part with being prisoners reminded Putnam of Mr. Bumble's impressive words to Oliver Twist.

Before the exchange of prisoners restarted Putnam was included in a small party of officers who were paroled in order to supervise the distribution among their fellow prisoners of supplies delivered under a flag of truce. For this purpose Putnam was sent to Richmond and spent several weeks there on parole, moving freely about the city. By this time he had obtained a new uniform from the North and it is not surprising that the inhabitants of Richmond were very puzzled at seeing an officer in Federal uniform walking about the town without a guard, but he met with hardly any instances of discourtesy. This attitude may, however, have been influenced by the fact that the inhabitants realized that the war was coming to a close and that it was likely that before many more weeks had passed Richmond would probably be in the hands of the Federal troops.

Putnam's account of the appearance of Richmond in the early part of 1865 is illuminating as to conditions there at the time. " In the morning hours I met the women going to market, and sad-looking women they were. They were mostly dressed for economy in black or butternut brown and looked as though they were all widows or orphans. The figures were wan as well they might be, for at this time the whole town was restricted to the shortest of short rations." In their market baskets, to buy such meagre supplies as there were, they carried great wads of Confederate currency, for by this time the blue-back dollars of the Confederacy were almost valueless, whereas the Federal green-backs had held their value. Putnam instances an egg, a very rare sight, for which their messman paid thousands of Confederate dollars. When it was produced the General said, " Gentlemen, I do not usually claim the privileges of rank but it is my impression that that egg properly belongs to the officer in command." But when the egg was opened it immediately became obvious that it must have been laid between the lines early in the campaign, and the unanimous decision was that as far as *rank* was concerned it could be appropriated by anyone who wanted it.

An interesting sidelight on the esteem in which Lincoln was held was provided at the time of his re-election in November, 1864. The prisoners, who might well have been ready to blame him for their not being exchanged, decided to hold an election of their own, and in spite of forebodings as to the result they re-elected

Lincoln by a majority of three to one. When Lincoln heard of this he referred to it as the most satisfactory and encouraging episode in the Presidential campaign. It showed him that he could trust the soldiers, and the votes, though they could not count in the election, were important as showing the persistent courage and devotion of the men.

It is perhaps understandable that there was little ill-feeling between the prisoners and their guards. The officers in charge on the whole were disabled veterans and were not a bad lot, and this was true also of the sergeants. The rank and file, however, could best be described as scrapings from the mountains. They were mostly slight, overgrown youngsters with less than the proper proportion of wits. As Putnam puts it, they seemed something like the beans in the prisoners' soup, not fit for service in the Confederate ranks but good enough for the Yankee prisoners. " If the disease had at that date been discovered they would have been described as hook-worm patients."

A few weeks after being placed on parole, the exchange of prisoners was resumed and Putnam was among the first batch to be repatriated. Before embarking for the trip down the James River back to the Northern Lines, some of his fellow prisoners had the unusual experience of trying to get into the prison where they had formerly been held and where their only desire had been to get out. On the way back to Richmond their guards got drunk on apple-jack rum, and on arrival the prisoners, who had to spend the night before embarking in their former prison in Richmond, being left to their own devices, straggled all over the town, turning up in ones and twos at the prison and demanding admittance. The guard became increasingly impatient at having to open the door towards midnight and at first refused to let the later arrivals in. They importuned him with, " You must let us in. We are poor stray Yankees with nowhere else to go."

On the way down the river Putnam's boat passed another flag-of-truce boat bringing up-stream the Confederate prisoners who were being exchanged ; it was clear from a close inspection of these men as the boats passed that the Federal Government was making a bad bargain. The Southern troops had been well looked after, they were well clothed, sturdy, and fit for service, whereas the Federal prisoners were nearly all ill-fed and in very poor condition.

Putnam himself had not suffered as much from his imprisonment as most, as was indicated by the fact that when, after a fortnight's rest, he reported to his regiment he did not meet in the field a single one of his old-time prison associates. When Putnam rejoined, his regiment was stationed in eastern North Carolina, which had contributed to the Confederate army a larger proportion of troops not only in proportion to its population but in the aggregate more than any other State in the Confederacy. Although the men of the North had reason to know from experience on many a hardly contested battlefield that the 'tar-heels' (as the North Carolinans were called) could fight, what Putnam saw of their homes did not give him a favourable impression of their standards of comfort. Nor did he think much of the beauty of their women, many of whom had impaired their complexions and any beauty they may once have had by the practice of " clay-eating or snuff-dipping " (he does not explain these practices but they do not sound attractive). He refers also to a book on the conditions in the South just before the outbreak of the war, written by a Yankee farmer who had made a journey on horseback through the eastern States, and it is somewhat surprising to hear that, far from there being a high standard of living, the author compared the general standards in the South

with those described by Arthur Young in his *Travels in France*, written shortly before the outbreak of the French Revolution. In the same book the author made it clear that he thought the commercial foundation of the planters unsound and that trouble of some kind was near at hand.

A fortnight before the end of the war Lincoln was assassinated, and Putnam gives a moving description of the sorrow and dismay with which the news was received in the Federal Army. "I found myself a unit in the crowd of 10,000 men all overpowered by the same emotion. Never before had I seen thousands of grown men sobbing together. It is impossible to recall the feeling of that day without being again touched with the wave of emotion."

Putnam took part in the final stages of the war. Sherman, after his famous march to the sea, was coming north from Columbia and was anxious to prevent Johnston, who was making the best possible defensive fight with all his old skill and persistency, from joining forces with Lee. All the available Federal forces were brought in from the coast to try to prevent this happening, and as part of this move Putnam found himself at Durham Station, where he had the satisfaction of standing in line with his regiment when General Johnston surrendered the last effective army of the Confederacy. The war was at an end and the Republic had been maintained.

TRENCH GASCOIGNE FIRST PRIZE ESSAY, 1956

By Wing Commander J. E. T. Haile, R.A.F. (Retd.)

" Correct man-management is vital to economy and efficiency in industry. Make a comparison between the methods of man-management in the Services and in industry, and suggest any improvements applicable to the Services."

> " If a man will begin with certainties he shall end in doubts ; but if he will be content to begin with doubts he shall end in certainties."—Francis Bacon.

MORE doubts than certainties should lie within the sentences forming the subject for this essay. Men and women have to be managed if any enterprise is to be successful in peace or war, but one may perhaps search in vain for any method of defining correct man-management. Correct for whom ? A foreman, a shop-steward, or a sergeant-major may have a different answer from a person on the shop floor, in the ranks, in an officers' mess, or in a managerial office. These again may be different from the views of those persons exercising professional skills in laboratories and design offices, engaged in flying duties, or working as administrators or technicians.

To be successful, industrial enterprises normally have to be efficient and economical in operation, but it is not completely true to add that correct management of men is vital to success, especially if one is thinking in terms of those people to whom the classification of ' the workers ' is applied. Indeed, there are a number of successful commercial enterprises where the direct labour content accounts for less than 20 per cent. of the prime cost of the product ; gross inefficiency in man-management in such cases might not wreck the companies.

For the purpose of this essay the assumption is made that methods of man-management in the three Services are broadly similar and based on a common doctrine, but it is necessary to define what is meant by industry in this discussion. One can only rely upon generalities, for whatever the degree of standardization within the Services, no two civilian firms are alike. The giants of private enterprise are today engaged upon dividing their organizations into smaller, self-contained, autonomous units—the mammoth nationalized industries are, perhaps unjustly, not yet respected for commercial efficiency—while over half the working population employed in manufacturing industry are in firms of less than 500 people.

No organization is so perfect that it cannot adopt better methods culled from some other source, but human relations and human endeavour are brittle things. Before accepting a new idea one must be certain that it is justifiable to scrap the existing order. Change for the sake of change should be resisted, but one must beware clinging to the outmoded.

The ultimate purpose of the Services is to fight and win ; it may be a proper definition of correct man-management in the Services to say that it helps to ensure the highest fighting capacity and morale possible with a given force, organization, and equipment. An industrial enterprise can only survive if it makes a profit, correct man-management in industry means the effective organization of work and the creation of the right morale by incentive and leadership to ensure profits.

Leadership and morale are necessary to both industry and the Services. The organization of an industrial firm is normally based upon the need to produce goods more economically than a competitor of any nationality, and is dependent upon the availability and cost of raw materials, machine tools, and labour, which vary from country to country and from district to district. But the organization of the British Services, with world-wide responsibilities, must tend to conform, in broad terms, with the large or small adversaries they may meet in varying climate and terrain. Industry is organized to take advantage of local conditions, the Services are organized to overcome extra-territorial circumstances.

Nowadays, the British Services draw their men and women from a wide cross-section of the population ; the Services, therefore, must reflect, willingly or otherwise, the feelings of the population, and this factor must be taken into account when considering man-management. The Services cannot afford, in competing with industry for men and women, to have a code of practice that is alien to the general experience or contrary to the wishes of the people in the homes whence come their potential officers and men ; that a proportion of these homes have little appreciation of the necessity for Service discipline is an added complication.

No mention of the problem of attracting, keeping ,and employing men in the Services would be complete without also calling to mind the difficulties that arise in finding useful work for officers and men after their Service days are over. It is common experience that employers are suspicious of the long-service man. The gulf of understanding in this field alone between civilian and Service life helps to underline the differences between the two.

Industry—Managers

> "What the superior man seeks is in himself : What the small man seeks is in others."—Confucius, *Analects Bk.* 15. Ch. 20.

Ninety per cent. of the firms in manufacturing industry employ less than 500 people, and it may seem reasonable to discuss the practice of personnel management, as it is commonly called in civilian life, in a hypothetical firm of small size. The disadvantage of taking this course of action lies in the fact that small firms, fighting for a profit in order to survive, cut the trimmings of man-management organization and leave little evidence for study. A firm may have a low rate of labour-turnover, be free from strife, and possess a general air of happiness, but no explanation may be available. Only the company's accounts will show whether the overall management has been successful.

On the other hand, if one considers larger factories or enterprises boasting complete and up-to-date personnel management organizations, one can examine statistics and records, inspect the canteen, playing fields, and first-aid room, admire the ventilation and heating systems, but come away with no real understanding of why the rate of labour turnover or the amount of scrap is greater or less than another firm's in the same line of business in the same district.

If one turns to the nationalised industries, coalmining for example, it will be found that one pit suffers from labour troubles but a neighbouring pit has maintained excellent labour relations over a long period of time. And yet it need not necessarily be true that the output of the latter is better than the former.

It seems that the only satisfactory way of getting to grips with the pattern of man-management in industry is to discuss in a general way the difficulties of industrial

management together with the methods adopted for their solution. One point must be stressed again, only a company's balance sheet can show whether management, including man-management, has been correct and effective.

Managers provide the leadership and the drive necessary for the success and survival of an enterprise, and management must always, in every decision and action, put economic performance first. A business enterprise exists to provide goods and services desired by a customer at a price the customer is willing to pay, and it can only justify its existence if it can meet these needs while still retaining or increasing the wealth-producing capacity of the economic resources entrusted to it. Planning for business is therefore quite different from Service planning, where the economic factor is not paramount although it may cause military plans to be modified. Good business management may contribute to the well-being of society by producing stability of employment and providing sporting and cultural amenities, but these factors are of only secondary importance in management decisions.

Managers are the costliest resource of an enterprise; the organization of a company really means the functions and organization of its managers. The spirit of a company is really the spirit of its management group; the objectives of a company are really the aims of its managers. When a company fails the fault is ascribed to the managing director; managing managers is his prime responsibility if resources, human and material, are to be welded into a successful enterprise.

Work has to be performed, and it is performed by persons exercising a range of skills. The work has to be arranged so that it can be suitably tackled, and the people have to be grouped to enable the best performance to be obtained. But human beings, unlike material, have control over whether they work and how much and how well they work; they require incentives, rewards, recognition, status, satisfaction, and leadership. Management must satisfy these requirements.

This discussion of management must include mention of the time factor. Management must live in the present and the long-term future at one and the same time, all the time. Visions must not endanger today's existence, today's success story must not burn up the capital resources needed to ensure the expansion of a company or its continuing existence through future economic ills. Technical developments now take longer to bring to fruition than ever before, and the long-term future is growing continually more distant and thus more difficult to define.

Military forces do not seem to be so acutely faced with this problem of actually living with both times, present and distant-future, at any one moment. In peace, military effort is in preparation for future war; in war, the main concern is with the immediate problem and the short-lived future.

Management in its daily task cannot separate the functions of managing the business, managing managers, and managing workers and work; nor, in its decisions, can it separate the present from the future. The manner in which a present grievance is handled may effect a future plan; a promotion postponed may cause a key worker to leave; money spent now on research of great future promise may cause a cut back in present customer service and the loss of essential goodwill.

Managers are the basic resource of a business enterprise, and its scarcest. It is possible to envisage a fully automatic factory with few workers 'on the shop floor'; but there will probably be more managers than is customary today. Managers are the most expensive resource of business; they depreciate rapidly and need frequent

replenishment. Experience shows that it takes years to build a management team, but that a short period of misrule can destroy it utterly. Experience also shows that with each technological advance the demands made upon the ability of managers increase.

The attitude of the workers mirrors management's competence and structure, and so the problems of managing managers must be tackled first. The primary requirements are to inspire managers to set their own objectives high towards the common goal and provide them with the means of measuring and controlling their efforts; the proper atmosphere for team-work must also be created. It is often thought that the main problem of co-ordinating the work of an organization is that of communicating ideas and orders to subordinates, but the real problem is one of communication upwards. A managing director is more concerned with his relations with the Board than with his co-directors; a foreman in the shop feels that he could get on better if those above him would understand his problems and leave him alone; a manager has doubts as to what is expected of him and worries whether his programme and point of view are being given sufficient weight. The task of the managing director is to present to managers a picture of the whole operation and their part in it. Increased technical requirements and complex operations can tend to become ends in themselves, thus deflecting the aims of a company. There is a need, therefore, constantly to direct the efforts of managers towards the common purpose.

Managers must accept responsibility. Decisions should be taken at as low a level as is practicable. A manager must have the authority to act within his own sphere of operations, and rather than trying to define what his authority shall be it is generally simpler to state what decisions must be referred upwards for confirmation. Industrial management should not attempt to supervise subordinate managers in the sense of controlling them, but should act in an advisory capacity. If this policy is to be successful, for the human element is the only business resource that can develop and grow, there must be authority to remove managers whose performance is not satisfactory. There must also be the power to reward those who perform well.[1]

Team spirit can only flourish in an atmosphere of mutual respect and trust; if an organization is to have a long life a code of practice must become established—written or understood. Managers must feel that a high performance is required and that mediocrity will not be tolerated; the promotion system must be rational and just; there must exist a right of appeal to top management; integrity must be an absolute requirement.

Industry is growing out of the brash habit of ruthlessly hiring and firing managerial staff. If a man has been promoted, and it is subsequently realized that the promotion was a wrong decision, room is normally found for him at a level of work for which he is capable. Similarly, if over the years a job develops beyond the capacity of its incumbent, he is found another post.

Finally, industrial firms must consciously relate their long-term future plans of 10 to 15 years hence to the need to provide managers trained, equipped, and organized to handle the enterprise at that point in time. Management is a continuing succession

[1] " I believe that the most potent single factor contributing to our progress has been the incentive which the ' A ' ordinary shares have provided to nearly 100 of our senior executives."—Sir Charles Colston, in 1952, when Chairman and Managing Director of Hoover Ltd. (*Business*, October, 1956, p. 114.)

and the best performers in any profession always look with pride upon the men they have trained and developed.[2]

Industry—the Rank and File

> " The bad workmen, who form the majority of operatives in many branches of industry, are decidedly of opinion that bad workmen ought to receive the same wages as good."—John Stuart Mill, *On Liberty*, Ch. 4.

The worker in industry, like the manager, is a resource. A firm makes a demand upon a worker in its role of producing goods or services for society ; a worker makes his demands upon a firm in his capacity as an individual human being and a member of society. A firm produces wealth for the society, it also provides a worker's livelihood. To the firm, wages are costs ; to the worker, wages are income. A firm only survives by making a profit ; the worker regards profits as detracting from his wages.

Some of the qualities possessed by the human resource in industry are unique. For instance, a worker has the power of judgment and imagination, he can decide whether to work or not, he can determine the quality and speed of his work, he generally works best as a member of an official or unofficial group, and his performance is always capable of development either from the stimulus of incentives or from some personal drive. There is no doubt that fear of unemployment was the main motivation to work in past decades ; modern industrial societies have largely removed this by their ability to look after the unemployed from the wealth of the community. If fear is a motivation to work, its removal does not in itself generate a desire to work. Experience shows that some sort of motivation is necessary. In industry, it is management's task to create and maintain the most effective motivation.

A firm is managing its men well when it is getting intelligent and responsible work from its labour force ; this can only happen when the men are responding to a high level of demand. A firm must also take pains to make it possible for its workers to accept change. This is achieved not so much by arranging training programmes for unlearning or learning, but by providing those elements of security in society which psychologists have shown to be necessary. A man has his own ideas of his worth and skill, the prestige of certain jobs, and his relationship with other workers ; when changes are made they must have the appearance of an improvement for those affected, and they must be made at such a rate that they do not bruise social and working relationships.[3]

The worker, apart from receiving his wages, likes to feel that he is doing a worth-while job in a well-run firm which possesses high standards. He expects to

---

[2] " This training of the men under them is a vital part of the work of all managers and the man who neglects it or regards it as a waste of time is unlikely himself to reach the heights."—Lord Heyworth, Chairman of Unilever Limited at their Annual General Meeting on 24th May, 1956.

[3] " . . . Over a period of eighteen months, operator output . . . at L. Rose & Co. Ltd. . . . rose by 250 per cent. The production labour force was halved, and there was a 35 per cent. overall gain in productivity. . . . No full-time workers were made redundant ; they were either absorbed into other departments or were accounted for by natural wastage. . . . When agreed at Board level, the proposed charges were explained in detail to workers' representatives and management, and at no time, the firm reports, was there any lack of willing co-operation on the part of the people concerned. . . ."—*Target*, Vol. 9, No. 7, p. 1, August-September, 1956.

receive fair opportunities for improving his position, proper supervision, and decent amenities, but he does not expect the firm to go further,[4] except perhaps in times of sickness or domestic emergency.[5]

An even more difficult task for industrial management is the need to get the worker to accept profit as being necessary and in his own interest. A profit determines a company's ability to employ labour, but while a company needs to be able to control and keep flexible its cost (e.g. in part, wages), the worker wants a steady income and job. In addition, the worker seeks to increase his share of the firm's prosperity and organizes himself to this end.[6]

There are in industry today three groupings of man-management techniques which go under the names of personnel management, human relations, and scientific management. A personnel management department will be found to be responsible for issuing letters of engagement and dismissal, running the pension scheme, dealing with trades union grievances, and the like. The sum of its work in a firm does not justify a place in top management for, as the cynic has said, ' personnel management is concerned with all those things that do not deal with the work of people and are not management.'

The human relations concept starts from the psychological study of the individual and inter-personal relations, but having discovered that people wish to feel important, stops short of the realization that the aim should be to make their work important. It seeks to give the worker a sense of responsibility, but stops short of ensuring that a worker is made responsible for some aspect of the whole operation according to his ability.

Scientific management is based upon the analysis of work into its component parts and actions, and upon the importance of planning the work before attempting to carry it out. Where the practice of scientific management fails is that it does not make use of the human being's ability to co-ordinate actions and exercise judgment, but rather treats the worker as an imperfect machine-tool which must be confined to a simple operation. It also tends to omit consultation with the worker at the planning stage but, with increasingly complicated technology, the worker should be expected and permitted to contribute to planning, for he will be controlling operations.

It is being realized that economy and efficiency can be obtained only by the proper organization and integration of worker and engineering method matched with high motivation. The one man, one job, one motion concept is dying ; mechanization takes its place. All work, human and mechanical, manual and mental, must be

[4] " Business enterprise must not become the ' welfare corporation ' and attempt to embrace all phases of the individual life. . . . A claim for absolute allegiance of the worker is as impermissible as a promise of absolute responsibility for him."—*The Practice of Management*, by Peter F. Drucker, Heinemann, 1955, p. 237.

[5] " Many a worker has found himself in a spot when his wife was taken ill and there were children to look after. Often the immediate and only solution was for him to stop off work with the consequent loss of pay. To meet such a contingency Rolls-Royce have introduced an emergency house-keeper service. On application an emergency housekeeper is sent to the worker's home. . . . The scheme was introduced by the firm on its own initiative. . . ."—*Labour's Voice*, Vol. 4, No. 5 (October, 1956), p. 6.

[6] " In the unrelaxing struggle to gain and maintain better wages, holiday and overtime pay, sickness benefits, and improved working conditions, steadily increasing membership is the main source of U.S.D.A.W.'s strength. . . ."—Advertisement for Union of Shop, Distributive and Allied Workers in Vol. 4, No. 5, of *Labour's Voice*.

analyzed and then organized, particular attention being paid to the proper sequence of action. A method of 'job evaluation' has recently been evolved; the job is rated, not the man, and assessment is made on the acceptable performance, not on the ideal. Improved performance is obtained by concentrating on each part of the work which makes up the whole. Most jobs require team work, and effective organization must make use of the social group to aid work performance. The job must always issue a challenge to the group, monotony must be avoided. Experience has shown that one of the most important tasks of management is to get each worker into his proper place, into the type of work he finds he really wants to do. Although assisted by improved selection techniques and aptitude tests, this may take several years; but advances in technology are calling more and more for work to be performed by small specialized groups with little supervision, and this can only succeed if the men are well-placed and are keen to do a good job.

The proper substitute for fear of unemployment as a motivation to work has not yet been found. If a worker possessed a sense of responsibility, if he could be given the information necessary to allow him to measure his own performance and relate it to the performance of the company, if the worker could only see the task from the point of view of management, then much would be achieved. But these problems remain; meanwhile money talks loudest.[7]

Industry—Foremen and Professional Employees

"And it holds a vast of various kinds of man."—
Rudyard Kipling, *The Wide Wide World.*

Foremen come between the rank-and-file workers and managers. They are on the bottom rung of the management ladder and are in direct contact with the men on the shop floor. If managers plan and control, foremen translate orders into output. It is the hard work, commonsense, and experience of good foremen that can make bad plans fruitful, rigid plans flexible, stubborn labour co-operative, untrained labour efficient. The converse is equally true.

One of the difficulties in industry is to find and keep good supervisors. In the first place, the earnings of shop-floor workers can be so high that the differential between supervisor and supervised is small, and is made even smaller by present-day income tax policy. In the second place, when a man or woman has been found who is willing to accept the extra responsibilities of becoming a supervisor, there is the need for training in management thinking, and the problem of whether the appointment should be in the shop from which the promotion was made or whether a transfer is desirable and can be effected. Again, there is the need to be able to offer further promotion to successful foremen, promotion to another worth-while job of greater prestige. In the main, industry has not yet found a solution to this last point. Finally, the work of a foreman covers the whole of a factory's life, and he is subject to exhortation, control, or interference from many departments, e.g. personnel, safety, work study, production control, cost control, quality control, and the Union representatives. He is responsible for the completion of returns, he has to attend management briefings and listen to workers' grouses, but he must find time to think ahead and ensure that his men have the material, tools, and fully maintained machinery to keep the work flowing to schedule. Industry has not yet solved the problem of finding and using good supervisors effectively.

[7] "We believe that incentive is the most potent weapon in the armoury of good management."—Sir Charles Colston, April, 1954.

There is in modern industry a growing number of professional people who are not workers, foremen, or managers. They range from electronic research workers to packaging specialists, from the company secretary to the computor programmer. Their professional standards are determined outside the firm. Their individual performance can be set by themselves alone, they cannot be directed or supervised but can only be guided. Their work can usually continue without reference to the day-to-day hurly-burly of the company's operation, but in the long run their contribution to the firm is vital. It behoves management to discover how to handle these men and women.

It is essential that the firm's recognition of their importance is clearly shown, their financial rewards must be stimulating, there must be possibilities of promotion within their own type of work without the need to enter the managerial sphere, although this too must be open to them. They must be encouraged to participate in the work of their own professional bodies and to keep abreast of new developments, but they should be expected to rub shoulders with other types of contributors to the business. Finally, as much care should be taken to ensure that the proper niche and reward are found for the specialist who wishes to concentrate on a narrow field as is taken for the professional man of wider interests.

The Services

" No dangerous dreams of wishful men whose homes are safe . . ."—Dorothy L. Sayers, *The English War.*

The experience of the peoples and governments within the British Commonwealth and Empire has been that the armed forces of the Crown stand ready to move at short notice to maintain civil law and order, to deter aggression, and, in the last resort, to fight. These moves can only be made by trained and cohesive bodies of men under a code of living which expects, and can insist upon, the subordination of private and family affairs to the interests of the State and community at large.

Any discussion covering conditions of service, training, discipline, and the relationships between officers, non-commissioned officers, and men, which does not keep the essential responsibilities of the Services constantly in mind, can lead to false and dangerous conclusions. In industry there is no superimposed coercion; obligations of managers and men to each other and to the country are of a moral character, sometimes strengthened by enlightened self-interest.

The Services have to use volunteers and conscripts without distinction. In order to allow the command function to be exercised in the simplest manner, an attempt is made to bring about a uniformity in the standards of discipline, morale, and prowess between comparable units and formations. In order to account for the expenditure of public monies and to lessen the opportunities for graft and patronage in the public service, a common policy has been accepted for pay, promotion, amenities, disciplinary code, and organization. Small variations between the Services as may be due to their differing roles, traditions, and historical connections have been recognized.

Within this common framework there are happy, well-contented units of high morale; there are also restless, troublesome units of uncertain temper. Environment, the type of employment, the scale of equipment, may each have a bearing upon these noticeable differences, but it is universally accepted that the main factor in determining the state of a unit is the way the officers and their men are handled.

As the social conditions of the community change, spiritually and materially, so must the spiritual and material conditions within the armed forces change, for in a democracy armed forces exist only by permission of the community. Social changes cannot be ignored but must be adopted and adapted in such a way that military effectiveness is retained, and retained *vis-a-vis* the effectiveness of the military forces of potential enemies. Where change has to be delayed, the reasons must be made abundantly clear.

Psychologists are working in increasing numbers to analyze the pattern of human behaviour and are able to go some way to explain the manner in which human beings react to stimulus. It is an interesting experience for a military person, conditioned to the rule-of-thumb practice of management of officers and men in the Services, to listen to an industrial psychologist explaining to managers and supervisors the best way of dealing with people and to hear methods, long-used by the Services, being scientifically upheld and recommended. Let it be said that man-management in the raw, as taught by rote in the forces, has little to learn from industry; indeed, experience suggests that the reverse is the case. Again, in the matter of training, industry is increasingly adopting Service techniques.

It is with inefficient use of the time and abilities of officers and men that the Services are frequently charged. It is said that time is wasted on unnecessary parades, kit inspections, orderly-room procedures, form-filling, and the like; but it is not often that the smart, punctilious unit does not turn out to be an above-average unit in an emergency. It is true that time is spent on these activities, but they are not allowed to interfere with essential training or action in battle. Indeed, under proper leadership, good use can be made of these necessary but irksome duties to train junior non-commissioned officers and young officers in the task of handling men.

British forces carry out as much battle training as is possible within the limits of available funds and space, but there is still a great deal of spare time, especially in the Army. Specialist committees have been asked to study Service procedures, but they have found themselves at a loss to suggest how the working day of the private soldier might be better spent within the limits imposed. They can, of course, recommend more useful employment for any particular person picked out at random, they can by means of work study and applied mechanical techniques show savings in certain routine tasks, but they cannot apply their results to the whole of, say, Western Command. On the other hand, provided the trade unions would agree, some non-military work might be undertaken.

Trivial, time-consuming tasks are not altogether useless. Civilian fire brigades, for example, have found that if the adoption of new materials removes the need to polish fire bells, standpipes and similar equipment constantly, the efficiency of stand-by crews deteriorates. It should not be forgotten that training cannot be continuous but must be nicely tempered if staleness is to be avoided.

Criticism is also levied at the manner in which all three Services appear to use their technical tradesmen. It has been found, for instance, that a civilian firm operating a flying training unit can maintain a better standard of serviceability and obtain a higher number of hours flown than a representative Service unit doing the same job and equipped with the same number of aircraft; furthermore, the civilian unit uses less tradesmen. Domestically, however, it depends upon the resources of the neighbouring communities.

The Service unit is self-contained and, because the men and women in the technical trades are at varying stages of experience and development as befits a balanced combatant force, their numbers are higher than comparable civilian practice. The Service unit can operate from any chosen airfield and maintain its standard of efficiency; it can move without undue interruption to flying training. A civilian unit might not be able to persuade its employees to move at all. The Service unit can operate at a greater intensity than normal at short notice and without greatly adding to the expense. A civilian unit can only work longer hours at greatly increased cost, not only in terms of overtime payment but in such matters as providing transport from home to work and *vice versa* after public transport services have ceased. The Service unit may be closed down and its members absorbed into other units without creating hardship, but to close a civilian unit would throw out of work persons who might not be able to find other comparable employment in the neighbourhood; the decision to close a civilian-manned airfield for good operational reasons might thus be resisted on political grounds.

Similar examples could be given for army workshops or naval yards. There is no such thing as something for nothing, and though it might be shown that a large proportion of the technical work of the Services in the United Kingdom could, under normal conditions, be more economically performed by civilians—but not by Servicemen apeing civilians—the resultant reductions in the number of uniformed men and women would embarrass the Services in finding drafts for overseas service in quiet times, and make it necessary to resort to the call-up of reservists for every emergency, large or small. Such dislocation of the life of the country would be politically impracticable.

There remains to be considered the methods employed by the Services in their technical and administrative work and to compare them with industrial practice. When the whole of this field is surveyed there seems to be no basis for any charge to be upheld that the Services are clinging to out-of-date ideas. The Services have sought the advice of consultants in all spheres of activity and have adopted a large proportion of their recommendations. The Services are enabled to do this once the responsible officers and their Treasury colleagues have been persuaded of the wisdom of the proposals; instructions are issued and they are obeyed without undue resistance. Changes in British industry are not so easily adopted at any level, and even when the desirability of change is made evident to all, the men on the shop floor make certain through their union organizations that their individual earnings do not suffer and that redundancy is kept to the minimum. All this takes time and much effort. One must not overlook the fact that the cost of obtaining the services of consultants, who are in short supply, limits the number of those firms able to employ them.

The foregoing paragraphs have stated that the Services are not lagging behind industry in methods; that the apparent superior performance and lower cost of civilian organizations when compared with Service units engaged in similar work do not necessarily make it desirable to extend the practice of civilianization or condemn Service efficiency. It is also asserted that in pure man-management the Services have nothing to learn from industry. Why then, it must be asked, are the Services in difficulties when it comes to attracting adequate numbers of persons of the right calibre to join up?

When the plight of the Services over the problems of recruiting is being discussed by members of the forces, it is common to suppose that industry can find all the

labour it requires; but, of course, if a firm of any size in industry adopted the medical, educational, and personal quality standards rightly insisted upon by the Services, a high proportion of the posts at all levels would remain unfilled. It is the scarcity of technically skilled labour that has been one of the more important causes in driving up wages without a compensating increase in productivity.

The British working man does not like to move away from his home locality. If a man is not attracted to a Service life before he is married, he is unlikely to volunteer after marriage; adequate numbers of married quarters can help to retain Regulars but do not play an appreciable part in obtaining recruits. Material working conditions are unimportant in causing men to imagine they like or dislike Service life. Similarly, material working conditions play only a small part in determining industrial output providing facilities are adequate for good work.[8]

Leaving aside other points often put forward as reasons for Service discontent—the cut and quality of uniforms, unappetizing food, fatigues and extra duties—one comes to three major items: pay, off-duty restrictions, and leadership. The subject of pay is beyond the scope of this discussion except to say that in combatant units there can be no payment by results, other than qualification pay, nor can pay be related to time spent at work or on duty. A significant factor, often overlooked, is that the computation of the pay of civilian workers in industry is expensive. Much time and money could be saved if industry could do away with the need to calculate wages in terms of a rate per hour, overtime at differing rates for week-days, Saturdays, and Sundays, waiting time when production has ceased for any reason, bonus and merit rating. It is, perhaps, an interesting comment that the large-scale use of computors in industry for the control of machine tools, production progressing, and associated requirements may, in the not too distant future, make possible the introduction of flat wage rates because of a smoother flow of work.

Off-duty restrictions are held to be one of the disadvantages of Service life. No Service policy has yet been evolved to deal with these criticisms, which are not misplaced when seen within the present social framework. It is submitted that a liberalizing policy is necessary for men serving in the United Kingdom and must be whole-hearted; a negative attitude, with concessions granted only under pressure, has proved to be worse than useless. The policies to be adopted in garrisons overseas should be varied to suit local conditions, bearing in mind that no direct comparisons will be made with civilian life at home.

Service units must provide the necessary guards, pickets, and communication staffs to ensure security after normal working hours; they must also detail sufficient men to remain available to fulfil pre-arranged plans made to meet civil emergencies such as flooding on the east coast, e.g. Operation "King Canute." All other men should be completely free to wear civilian clothes and be free to leave the unit without the imposition of unofficial obligations. There need be no fear that discipline will suffer. Well-run units, where officers and men know where they stand, will be smart and efficient.

The peoples of all nations associate smartness with efficiency[9]; when officers and men appear in public in uniform they should be properly turned out. Units,

[8] The Hawthorne experiments conducted by Elton Mayo, of Harvard, around 1928.

[9] "We found it a great mistake to belittle the importance of smartness in turn-out . . . and to dismiss them as naïve, unintelligent parade-ground stuff. It was our experience in a tough school that the best fighting units, in the long run, were those who, when they came out of battle, at once resumed a more formal discipline and appearance." —Field-Marshal Sir William Slim, *Defeat Into Victory*.

camps, and ships must be kept spick and span. British engineering industry has not been noted for its air of efficiency, but recent visits by representatives of the industry to Germany and France to enquire into the rapidly increasing productivity of these countries[10] have convinced British industrialists not only that more capital investment must be made in the United Kingdom, but that insistence on cleanliness on the shop floor and the creation of a laboratory atmosphere is worth-while in terms of output and standards of workmanship. Industry employs elderly or disabled persons rather than low-grade labour on the tasks of cleaning and sweeping, and it seems that in units at home, the Services should adopt the same practice instead of using National Servicemen[11] or Regulars of below average ability.

The organization of work in a factory is based upon the working force being at full strength. It is usual in industry to close down completely during holiday periods. In the Services, units are seldom at full strength in peace-time, and leave is normally permissible all the year round. Service life, which is mostly spent away from members' home towns, makes it generally impracticable to adopt the industrial practice for holidays, but every year units should be expected to have three or four periods, each of about two weeks duration, when leave is stopped except for urgent compassionate reasons. These short spells at full peace-time strength will allow units to work up to a high standard of efficiency and will show what can be achieved. The force of example is a necessity in the Services where every man is actively encouraged to work for promotion both in rank and in grades of skill, but where objective measurements of efficiency scarcely exist. Labour and management in a manufacturing concern measure their performance by output and 'excess' costs of labour and material.

But all the points made so far pale into insignificance in relation to the need for leaders of men. Men can be leaders whatever their rank or station in life. The Services have had long experience of leadership, good and bad. In matters of life and death they have been uplifted or cast down by the power of political, religious, and military leaders. The Services take care to nurture leaders, for from good leadership is borne the high morale necessary for success in battle; but even more

[10] Industrial output in Western Europe (1953 = 100):—

	All Industry	
	U.K.	*Continent*
1954	108	109
1955		
1st Qtr.	113	117
2nd Qtr.	115	121
3rd Qtr.	112	123
4th Qtr.	116	126
1956		
1st Qtr.	113	126
April	115	129
May	109	131

—*The Times Annual Commercial & Industrial Review*, 22nd October, 1956.

[11] The Secretary of State for War announced in March, 1956, that a committee would be set up to enquire into " the employment of National Service men in this country, with special reference to static organizations and establishments."

should be done to equip officers and non-commissioned officers with an understanding of men by drawing on all available sources of knowledge.[12]

Modern industry cries aloud for leaders, but they are rare and the cause is not far to seek; there is no tradition of leadership extending back over the years. Workers have had to combine to obtain just treatment under leaders of their own choosing, but having obtained material security are now finding their own leaders to be inadequate in the new context. On the management and supervisory side of industry efforts are being made to create a doctrine of leadership. It is probably no coincidence that in travels through manufacturing industry one finds that the happiest and most productive departments are those where there is a goodly leavening of persons with some years of military experience.

If the efficiency and morale of the armed forces depend upon the keenness, verve, unselfishness, and training of officers and non-commissioned officers, it must be a first charge on the Treasury to see to it that adequate material well-being is provided to ensure that officers and non-commissioned officers can devote their full time to their duties as responsible, qualified leaders. Improved pay in 1956 followed 10 years of parsimony which nearly emasculated the Services.

There is, perhaps, one point upon which civilian managers have an advantage over officers of the armed forces in their normal mode of work. Managers frame a financial budget within which they and their departments seek to achieve their targets; considerable latitude is allowed to managers in spending money on important but relatively inexpensive items of equipment. It is true that expenditure beyond a certain amount may have to receive sanction from the board of directors, but the advice of the manager—the responsible man on the spot—is not lightly turned down, and certainly never by persons of less experience or responsibility than himself. In the Services, small financial responsibility is allowed to serving officers: for instance, a civilian section officer of the Air Ministry Works Directorate, whose relative rank would not be above that of a flight lieutenant, has greater power to authorize the expenditure of public funds than a group captain commanding a station.[13] Officers are not encouraged to count the cost, but they learn to overcome these disadvantages by the use of their native wit in circumventing regulations; amusing when it is not frustrating, but costly to the nation. This is a failing in man-management and is a lesson that industry can teach the Services.

A second lesson must be underlined . . . 'the advice of the manager—the responsible man on the spot—. . . is not lightly turned down, and certainly never by persons of less experience or responsibility than himself.' It would probably be true to say that well over half of the delays, unfortunate decisions, or lack of decision concerning the well-being of serving officers and men which eventually lead to unwelcome publicity, trouble in units, or personal disaster for Service families, are caused either by the advice of commanders being ignored by 'staff officers of the

[12] Captain D. J. Hoare, R.N., writing in the 1956 edition of *Brassey's Annual*, supports this view and extends it to cover Civil Servants in the Service Ministries.

[13] "The committee [Select Committee on Estimates] felt that superintendents should be able to authorize the acquisition of pieces of equipment up to £300 in value falling into the categories of shipbuilding, repairs and maintenance, and works, buildings, and repairs . . . They rejected the Admiralty contention that this 'would decrease the flexibility according to which the Admiralty can decide on spending the money where it is most needed.' The Committee say the whole system at present is the reverse of flexible. . . ."—*The Times*, Thursday, October 11th, 1956.

third-grade,' as Mr. Churchill has expressed it, or by long-winded Civil Service procedure operated at a low level by men of little imagination and less Service experience. It should not be forgotten that some four-fifths of the Army are now overseas, and that the Royal Navy and Royal Air Force are also heavily committed outside the British Isles.

Conclusion

> " . . . my treatise being both a satire against them, and a true character of them . . ."—Niccolo Machiavelli, from a *Letter to a Friend.*

Methods of man-management are evolving and improving under the impact of changing environment and of more detailed, scientific and medical knowledge. The fruits of research are available to all, but the Services are in the more favoured position to experiment and adopt modern techniques. There will always be room for improvement in handling and organizing men in the Services in order to obtain efficiency and economy, but there are few relevant lessons to be learned from present-day industrial practice. The Services are expected to retain their fighting efficiency in small and large wars, in the face of casualties, disease, fear, and the uneconomic dispersal dictated by nuclear weapons. They are expected to retain their alertness in peacetime in the face of that unsettling, ubiquitous interloper called ' the exigencies of the Service,' and the boredom of standing-by has to be withstood.

Except for his financial responsibilities the position of the manager is far more equivocal than that of the Service officer ; one can quote from a recent report by the Director of the Industrial Welfare Society, " A young manager should know that much of an executive's time will be taken up by winning his colleagues and immediate superiors to a pet idea of his and disproving those of his rivals. To win a trick over other able and ambitious men is often necessary."[14]

The industrial supervisor leads an uneasy existence between executive management and the shop steward ; his work is ill-defined—in a study in the United States it was shown that a foreman was responsible for 41 different activities[15]—and the problems of promotion are largely unsolved. Contrast the recognized status, opportunities, and responsibilities of the non-commissioned officer.

Industry is learning to adjust itself to the position of the professional employee, whose numbers have increased by one third since 1948.[16] The Services, also, are grappling with this problem ; for example, the Royal Air Force has its new technical trades structure where promotion is possible without the assumption of command and disciplinary responsibilities beyond that of corporal.

Careful liberalization of the off-duty freedom of the able seaman, private soldier, and aircraftman will improve the lot of the rank-and-file and help it to stand comparison with the life of an industrial worker. At work, the advantages lie with the Services—men know where they stand. It is perhaps inconceivable to the Regular Serviceman that the Industrial Welfare Society should find it necessary to issue in 1955 a recommendation that firms should make available to employees handbooks setting out

[14] Mr. John Marsh in *Industrial Welfare*, October, 1956.

[15] " Activities and behaviours of Production Supervisors," Report No. 946, Personnel Research Section, P.R. & P. Branch, The Adjutant General's Office, Department of the Army, Washington, D.C., 1952.

[16] Blue Book on National Income and Expenditure, 1956.

their terms of service.[17] The greater proportion of industry has yet to adopt this elementary principle of correct man-management. This omission has led the Minister of Labour to propose, as recently as October, 1956, that every worker should be given a contract of service telling him in plain terms what his rights are and the conditions on which he is engaged: a principle to be established "if necessary by legislation." But the workers may not relish a contract of service requiring observance by employee as well as employer—a measure of integrity to which Servicemen are accustomed.

Industry is seeking to improve the effectiveness at work of the men and women it employs. It is learning to use mechanical and electronic aids where capital investment is justified by savings in time or wages, it is learning to handle men and to contrive incentives to obtain willing work, and it is learning to create by forms of joint consultation the necessary confidence between all levels of employees. Nevertheless, a rate of labour-turnover "in the region of 41 per cent. a year for men and women jointly"[18] leaves room for improvement and serves to illuminate this cautionary tale.

[17] Employees' handbooks were recommended to contain information about conditions of employment such as wages, hours of work, sickness payments, period of notice, promotion and transfers, holidays, medical examination, safety, reporting of accidents, security (right of search, etc.), return of company property, alteration of conditions, and breach of conditions. They should also include rules about time recording, timekeeping, overtime, absence and leave of absence, change of address, notification of infectious diseases, control of collections, smoking, drinking, gambling, disorderly conduct, wilful damage, traffic regulations, printed matter and trading in the works, and general information on such matters as joint consultation, medical services, canteen facilities, pension schemes, elderly or disabled employees, sick and benevolent funds, profit sharing, savings schemes, suggestion schemes, long service awards, purchase facilities, visitors to works, recreational facilities, works magazine, education and training, works library, apprentice scheme, and personal problems.

[18] Mr. R. L. Webster, Chief Personnel Officer of Hoover, Limited, at the British Institute of Management conference, Harrogate, 1st November, 1956.

"QUARTER-BLOKE"

By Major Reginald Hargreaves, M.C.

" Before the fighting proper, the battle is fought and decided by the Quartermasters." Field-Marshal Erwin Rommel.

IT is perfectly easy to get a cheap laugh by indulging in a cheaper witticism about the ' Quarter-bloke.'

Indeed, few men have been more—and less justifiably—reviled than this uniformed purveyor of bread and meat, and tea and pickles, shoes, shirts and shorts, and the hundred and one additional " necessaries and comforts " that contribute so vitally to the Army's efficiency, welfare, and contentment.

Criticism of this hard-working lynch-pin in the Army's organization invariably comes from those sadly lacking in knowledge of the functions, responsibilities, *and* limitations of the job with which the ' Quarter-bloke ' is entrusted.

Probably the only reason that can be advanced for his lack of popularity with the less informed is to be found in their dim awareness of his lineal descent from that dubious figure of bygone days, the commissary. For such are the laws of continuity that the hapless ' Quarter-bloke ' finds himself heir to the accumulated heritage of enmity, suspicion, and distrust with which the past has enshrouded the commissary's name.

The commissary himself was, of course, the unhappy byblow begotten of an uneasy liaison between the civil administration and the military supply organization. An offspring whose illegitimacy was never in question, to the invidiousness of his equivocal status all too often he added qualities of obstructiveness, corruption, and sheer pig-headed obduracy peculiarly his own.

As will be recalled, the organized military supply service was the outcome of, as it was the retort of the responsible military authorities to, that haphazard mode of victualling an army in the field which went by the name of ' living on the country.' A starkly brigandish proceeding, ' living at free quarter,' as it was also termed, stripped a *terrain de campagne* as speedily and as thoroughly as a visitation by a plague of locusts. Moreover, under the ' smash-and-grab ' principles prevailing, the battle went too often to the pushing and unscrupulous. To one sturdy, thrusting rogue would fall the prize of a well-larded capon or a tender, juicy leveret ; to his less assertive fellow no more than a mess of eels done in fennel, a bowl of applejohns, or even a stale hunk of bread thinly smeared with *must*. Wasteful, chaotic, provocative of as much resentment among the pillaged as it was of indiscipline and quarrelling between the plunderers themselves, so inconsequent a means of procuring subsistence inevitably had to yield to some more reliable and less antagonizing method of raising supplies ; to a system in which ultimate responsibility was vested in the hands of the Army's principal administrative officials.

Of these the chief was the Proviand-Master General ; whose subordinates included a waggon-master, a lieutenant, a clerk, a waggon-maker and wheelwright, and a smith. There was also an official termed a quartermaster ; but in early days his prime responsibility was the detailed lodging of the more exalted officers and the marking out of a camping ground or block billets for the troops. In this task he was assisted by a corps of harbingers, to whom the actual work of ' chalking off ' the quarters was entrusted. A number of victuallers controlled the break-up of the rations as they were issued in bulk from the central magazines ; thereafter

taking charge of the convoys by which they were distributed to the fighting troops. Their work, in short, was that which came to be associated, in turn, with the Assistant Commissaries and their lineal descendants, the regimental Quartermasters ; and it was they who actually doled out the " stock-fish,[1] herrings and all manner of salted fishes, salted and hung fleshes, especially beef and bacon ; butter, almonds, chestnuts and hazlenuts, oyl, wyne, honey and vynegar,"[2] which formed the ' staple ' of the mediaeval soldier's ration.

It will be observed that, initially, the Proviand-Master and his minions were soldiers under military discipline ; and, further, that *the same authority was responsible for both waggon and load;* an entirely sensible and practical *modus operandi*. But the non-provocative accumulation of supplies entailed purchase in place of requisitioning ; while the official rationing of the troops was held to justify a deduction for subsistence from the soldier's pay. In these two complementary financial transactions the civil administration found their excuse to gain control over military expenditure ; which they proceeded to exercise through the department of State known as the Treasury. For it would appear to have been an axiom of all governments, at every period of history, that the soldier—to whom is confided the lives of a nation's fighting men, as its own ultimate fate in war—is a creature of such feckless irresponsibility that to entrust him with a single penny piece of that selfsame nation's money is to be guilty of an act of the very rankest imbecility.

The outcome of this particular article of faith was the appointment of *civilian* commissaries, with whom reposed entire responsibility for any transaction involving the payment or receipt of minted coin.

But the supply of regularly consumed stores implies the use of transport for their regular renewal. And in all military operations order on the road, no less than smoothly-functioning means of communication, cannot be ensured without discipline. It followed, therefore, that while supply was taken over by the civil administration, transport remained under military supervision. With waggon and load subject to so gross a condition of dichotomy, there arose that friction between inimical branches of what should have been the most corporative of services ; a hostility which grew in venom as it hardened steadily into a reprehensible habit of thought. In the outcome, where the fighting man himself was concerned, the odium which came so speedily to be associated with the commissary's name fairly ' smelt to heaven.'

But, making all allowance for professional bias, the conclusion cannot be evaded that the commissary himself was not without at least contributory responsibility for the evil reputation in which he was so widely held. From the disciplined military subordinate of mediaeval days, he had been transmogrified into an independent *fonctionnaire*, answerable only to a civil Department of State, and imbued—in England at least—with that contempt for authority, as represented by the man in uniform, by which the administrative jack-in-office is so often characterized. Small wonder that little love was lost between the fighting man, afloat and ashore, and one whose interests and loyalties were so often at odds with those of the individuals to whom it was his prime responsibility to render service. It followed that, when warlike operations were in question, instead of the ready sympathy and co-operation by which all men with a common object in view should be united, as often as not a condition of affairs prevailed which fell little short of anarchy.

[1] What would now be termed " Newfoundland cod."
[2] *Pallas Armata*, Sir James Turner (1615–1686).

In the days of that much-married Tudor monarch, Henry VIIIth, for instance, a British expedition to Guyenne soon ran into trouble owing to the inability—or refusal—of its commissary to cater for the peculiarly insular tastes of the troops it was his business to furnish with subsistence. True, he had salted down 25,000 oxen so that the man in the ranks could be assured of that " roast beef of Old England " without which he immediately became, as a contemporary chronicler put it, " listless or openly mutinous." But for the rest, the supply chief had relied on the hope of local markets to supplement his basic rations, with the result that Stile, the military secretary to the Commander-in-Chief, the Marquis of Dorset, was soon writing home to the King in a rare state of perturbation. " Matters here are all at odds," he wailed, " and our enterprise ailing in all its parts for want of proper victualment. The greatest lack of victuals that is here is of beer ; for your subjects had lever for to drink beer than wyne or cider ; for the hot wynes do harm them, and the cider doth cast them into disease and sickness."[3]

With their tails between their legs, the troops trailed miserably home again ; everyone roundly cursing the commissary on whose dereliction of duty the whole blame for the sorry fiasco was incontinently unloaded. Which was more than a little unfair. For in those days beer was little known on the Continent of Europe (outside the Low Countries), and no facilities could be improvised for its local manufacture ; while the English habit of drinking it very newly-brewed—Queen Elizabeth, for example, preferred strong ale of less than two days' maturescence—rendered it impossible for the hapless commissary to barrel it at home and thereafter ship it overseas. Having regard for the fact that a normal consignment of beer for a contingent of troops serving overseas amounted to some two thousand tuns per shipment—a tun containing 252 ' wine gallons '—the soldier's resentment at being deprived of so appreciable an amenity is perfectly easy to comprehend.[4] Not that beer was the only thing that, on occasion, was in conspicuously short supply. In 1588, for example, with the threat of the Spanish Armada mustering some 4,000 of London's Trained Bands at Tilbury, 20 miles away from their homes, " they found," a contemporary chronicler has recorded, " they must go that distance from the camp again before they could find so much as a loaf of bread or a barrel of small beer." In effect, under the call of sudden emergency, supply arrangements had been entirely incapable of standing up to the strain.

Victualling was the primary bone of contention, of course, where the commissary was concerned, but there were plenty of other grounds for grievance. As the representative of the Treasury, it was the commissary's particular responsibility to ensure that, where prize money was in question, the civil authorities were credited with their rightful share—and no mean proportion of the spoil at that ! This, naturally enough, was scarcely calculated to endear him to the chiefs of the naval and military forces whose enterprise had brought off a profitable *coup*. On one occasion, in the XVIIth Century, the admiral and O.C. troops conspired to confine the commissary in a small auxiliary vessel while they got on with a job which promised an attractively lucrative return. The discovery that no powder or shot or any other warlike stores could be procured save with the commissary's assent led to the prompt release of their captive and some very heavy apologies from the two doughty warriors who had sought so strenuously to outsmart him. On the occasion of another amphibious

[3] Brewer, *The Reign of Henry VIIIth*, Vol. I.

[4] The beer ration was normally a generous half a gallon a day. If reduced to a mere quart *per diem*, it was supplemented by a daily half a pint of sack, and—in Ireland—by half a pint of that novel tipple, usquebaugh (or whiskey) every second day.

expedition, the commissary and the commodore took sides against the general; the first-named completely wrecking the military firebrand's proposed operations by refusing to land the ordnance stores under his charge. In this instance, co-operation was so hopelessly far to seek that the expedition returned home with nothing accomplished whatsoever—if exception be made of a lengthy casualty list from scurvy.

* * * * *

It was Spain that gave us the term Commissary-General; but this implied an executive rank carrying responsibilities towards the Cavalry, in the matter of drill and the drawing up of the order of battle, similar to those borne by the Serjeant-major General towards the Infantry. Cromwell's Parliamentary Army of " the New Model " had a Commissary-General of the Horse Provisions, a Commissary-General of the Ordnance Train, and a Commissary-General of Victuals; obviously three heads of departments responsible to the Chief Commissary as the supreme controller of the services of supply. Of the subordinates working under these departmental heads, it is clear that far fewer complaints were levelled at the chief of the Ordnance Train than were showered on the individual responsible for the victualling of the men and horses. For even with so self-righteous a body as the Puritan Parliamentary Army the temptation to defraud the State and the soldier too often proved irrestible. Sir Charles Coote, writing from Londonderry in June, 1647, affirmed that many of the troops under his command in Ulster had " died for want of bread to sustain them," since he had " not been able for many months past to afford them but five or six pounds of oaten meal a week, and if God had not miraculously blessed us this Winter by getting beef from the rebels, with the little salt we had in store, we had perished."

" Bread and pease—other provision have we none," moaned ' Private Centinal ' Feinnes of the Governor's Regiment of Foot, writing in 1670 from the beleaguered outpost of Tangier, which, together with Bombay, had come to Charles II as part of the dowry of his consort, Catharine of Braganza. " But we still have powder and shott a-plenty," he adds; which again seems to argue that the commissary of the Train was a better and more conscientious man at his job than his opposite number of the Victualling Department.

Wallenstein, the dominant figure of the Thirty Years War (1618–1648), was considered by far the most efficient commander, to that date, in the difficult art of victualling his troops, as well as providing them with all those non-consumable stores of which the soldier stands in ever-present need. " The Duke of Friedland's masterpiece," wrote *The Swedish Intelligencer*, " is to be a good provisioner, and he hath a singular good catering wit of his own." Furthermore, he demanded the same strict attention to business in his subordinates. Thus, when he issued hand-mills on the scale of one per squadron or company, so that, in the event of a shortage of milled flour, the men could grind their own, it was his commissaries of the Train who were instructed to keep them in order; as it was the Victualling commissaries who were directed to ensure the steady supply of the grain itself. After Lützen a reserve of biscuit was always on call to meet an emergency. " Biscuits," pronounced Napoleon in 1803, " make war possible "; but of the two it was Wallenstein who attended to their provision with the greater punctuality.

The great Duke of Marlborough was the first British commander to give the question of supply a sound fundamental organization. Bread, with the necessary wagons to transport it, was the subject of a contract between the Commissary-General—appointed, with supreme financial control, by the Treasury—and an

individual (in this case the able if somewhat *rusé* Solomon Medina) who accepted the responsibility for maintaining the requisite supply. In addition, licensed sutlers, vintners, and fleshers, or butchers, marched at the Army's heels, to furnish meat and other necessaries. Their prices were strictly controlled by schedules issued by the Provost Martial, while their activities came under the direct supervision of the regimental Quartermasters and Seconds-in-Command.[5]

A certain amount of chicane may have crept in where payment for the bread issue was concerned, but otherwise the system for the supply of ' consumable stores,' within its limitations, worked remarkably well; far better, indeed, than that magnoperated by the French *Intendant-Général*, although the latter had the advantage of calling far more freely on home-produced comestibles. The bulk of the subsistence for Marlborough's Army had, of course, to be transported from the island base to the theatre of war overseas.

Incidentally, Marlborough's hurried note to his Duchess, telling her of the spectacular victory of Blenheim (13th August, 1704) was scribbled on a slip of paper borrowed from a passing commissary; a forage bill and tavern reckoning—unpaid!

It would, of course, be grossly unfair to imply that the majority of the hard-working, resourceful, and conscientious race of commissaries were guilty of the shabby excursions into venality by which some of the lesser of their brethren were unhappily distinguished. With most of them probity walked hand in hand with industry; and not a few of them nourished a lively sympathy for the unfortunate inhabitants of the *terrain de campagne*, on whom the exactions of the military often pressed with singular harshness or injustice. A note in the *Journal* kept by a commissary attached to the British and Allied forces throughout the Seven Years War (1756–1763) serves to throw a powerful light on an abuse of which the agriculturists and small-holders in this particular theatre of war were frequently the victims. In winter-time or following a period of drought, supplies were often hard to come by, their local purchase frustrated at every turn. It was then that:

> " The Contractors, finding it difficult to fulfil their engagements, often failed in making their deliveries of aliments and forage into the Magazines for the supply of the troops; and the Army being frequently in want of subsistence, was compelled to requisition and forage upon the country, taking what they could meet with in the villages and barns of the peasants, and leaving a receipt with them for the quantity supposed to be taken away. These poor people, not knowing where to apply to get payment for these receipts, were glad to dispose of them on any terms; and from this distress of the Army, and country, there arose a gainful traffic to the Commissaries and contractors."[6]

For, taking advantage of the peasantry's ignorance of anything in the nature of paper transactions, for a trifling cash outlay these pretty gentry would discount a bundle of these receipts for a mere tithe of their face value; pocketing the difference

[5] At this date the British ' private centinal ' received 8d. a day, less certain stoppages, and bread being the only ' free ' issue, out of the daily 6d. which was set apart for his subsistence he could rarely afford a meal of meat or bacon more than twice in one week. Other commodities were remarkably cheap, however; and if he so elected he could be " drunk for a penny, dead drunk for tuppence "; while his tobacco cost him from 3d. to 4d. a pound. Stoppages were a standing grievance, but the responsibility for their institution rested rather with the Treasury than with the military authorities.

[6] From a MS. journal of the campaigns of 1759–62 in the possession of the author.

after presenting them at Army Headquarters, where they were, of course, redeemed at par. So lucrative did this shady traffic prove, indeed, that some of the more unscrupulous among the fraternity of commissaries were not above contriving a deliberate shortage in their own regularly-purchased supplies, the better to reap an easy and effortless harvest—at one remove—off those surrendered by the peasantry. It was this type of venal, grasping *fonctionnaire* that brought the whole breed of commissaries into universal disrepute.

The American War of Independence was distinguished, among many other things, by a brand of commissary rich in qualities of singular unattractiveness. On the British side, their primary qualification would appear to have been the possession of accommodating wives, to whom the senior officers could turn for a little relaxation with a confidence that was seldom disappointed. With the Americans, if early complaints against the commissaries' professional efficiency, or want of it, had been mitigated by a realization that they came to their work almost entirely lacking in experience, with the ghastly winter of '77 settling down on Valley Forge their continued shortcomings resulted in little less than a wholesale breakdown in the service of supply. Washington, as undernourished and chilled to the bone as the humblest of his riflemen, wrote in desperation to Congress that, " unless some great and capital change takes place in the Commissary department, this army must inevitably be reduced to one or another of three things ; starve, dissolve, or disperse in order to obtain subsistence in the best manner they can." At the same time, with his accustomed fairness, the Commander-in Chief was careful to attribute the responsibility for the deplorable inefficiency of the supply services less to the commissaries themselves than to the administration which so consistently disregarded their recommendations and appeals—those Congressional wealsmen and place-seekers who " seemed to have so little feeling for the naked and distressed soldiers."

Fortunately, alleviation was on the way in the person of that practised veteran, Baron von Steuben. Loyally seconded by the indefatigable Nathaniel Green, the experienced Brandenburger soon galvanized a little response out of Congress, while sedulously teaching their business to a body of men who had been lacking rather in skill than in devotion to a difficult task, over which, under expert guidance, they eventually succeeded in gaining mastery.

Incidentally, the festive dinner organized by von Steuben's *aides-de-camp* to celebrate the confirmation of the Baron's rank as Major-General, was in actual fact, a spartan meal of " potatoes and tough beef steaks "—with a dish of hickory nuts by way of dessert. There was no wine, but toasts were honoured in draughts of spirits, ' salamanders,' as they were termed, since the raw liquor was set on fire and quaffed down flame and all. But at least the commissaries had learned to deliver their beef and potatoes punctually—however tough and frozen—or there would have been no commemorative dinner at all.[7]

* * * * *

The age-old curse of divided responsibility—for the load and for the waggon that transported it—was never more in evidence than during the early days of the 22-year struggle against the French which only ended in 1815 on the field of Waterloo.

[7] It was von Steuben who wrote of the starveling soldiery of Valley Forge, " poor fellows, they have field officers' stomachs without their pay or rations " : not that the selfsame pay and rations particularly advantaged those selfsame field officers at the time of the good Baron's comment.

In 1793–4, a disorderly mob of civilian waggoners added appreciably to the confusion of a corps of commissaries of very variable quality. They had been recruited from the highways and byways by the peg-legged[8] Commissary-General Brook Watson; an individual who did well enough out of his share of the campaigns to achieve, in later days, the dignity of knighthood and the Lord Mayoralty of London. His principal contractor, in the words of a contemporary, "was a Mr. Eckhardt, a Hanoverian Jew, a clever man who did his best for the army *and himself*, for he made a large fortune and became Baron von Eckhardtstein"![9]

The Duke of York, one of the best commanders, in an administrative sense, who ever took the field, soon wearied of the irresponsible rabble of insubordinate civilians on whom he had to rely for the distribution of his supplies; although his first attempt at providing a substitute rather recoiled on his own head. A body of carters and drivers were hastily enrolled, on a military engagement, and given the title of The Royal Waggon Train. But the nickname of 'The Newgate Blues' it speedily acquired—blue from the colour of the uniform and Newgate in reference to the gaol precincts where most of its personnel would appear to have been recruited—more accurately summed up its general character. Its officers, got together on the vicious principle of 'raising men for rank,' were no better than the men; of whom Colonel Sir James Craig, the Duke of York's Chief-of-Staff, wrote trenchantly, "A greater set of scoundrels never disgraced an army. Half of them, if not actually taken from the hulks, have certainly at times been in them. They have committed every species of villainy, and treat their horses badly." Obviously, the usefulness of this mob of drunken and insubordinate ruffians was in reverse ratio to its swaggering air of self-importance; and, very wisely, its disbandment was speedily effected. It was revived, in a slightly different form and with a more carefully selected class of recruit, in 1799, and did good work in the brief campaign of that year in Holland.

By the time Wellington got into his stride in the Iberian Peninsula the experience gained in the earlier years of the war had produced a system of supply, both for men and their mounts and the guns that supported them, which was as efficient as anything could hope to be until the day should arrive when responsibility for load *and* waggon should be invested in the same authority. So vile were the roads, however, that much of the work had to be performed by pack animals—always a supply officer's horror!—the balance being relegated to ox-carts, with a maximum rate of movement of two miles an hour. Furthermore, this meant the employment of local talent as muleteers and carters with a consequent loosening of military control even on the business of transportation—the load, of course, remaining, as always, the responsibility of commissaries appointed by the Treasury.[10] However, despite innumerable handicaps, Wellington could always keep his troops together and maintain their supplies; whereas the French were incapable of anything but the briefest of concentrations, since subsistence could only be assured—and then on a low and variable scale—so long as they remained widely dispersed in scattered rural areas capable of producing a meagre basic alimentation. Colonel Watson of the Brigade of Guards, who had been warned that he "might have to rough it on a beef-steak and a bottle of port," could at least console himself with the contemplation

[8] He had lost a leg from the bite of a shark.

[9] Vide *The Taylor Papers* (London, 1913). The italics are those of the diarist.

[10] Oddly enough, their Warrants of Appointment had to be countersigned by the War Department, which, however, had no sort of voice in their selection.

of the revealing comment chalked on a barn door by some desperately hungry French straggler : *" Un bon soldat faut avoir le force du cheval, le cœur d'un lion, l'humanité d'un bête—et l'appétit d'un souris " !*

For the most part the British Commander was served by as devoted and efficient a body of commissaries as ever took the field. There were, however, a few black sheep amongst the flock, as was inevitable. The story is told of one such individual, who forced his way into Wellington's presence to complain that General Sherbrooke, of the Guards Division, had threatened, should he again be late with the delivery of supplies, to hang him out of hand from the nearest tree. The Commander-in-Chief turned an entirely expressionless face on his seething visitor and bleakly rapped out,

" General Sherbrooke said that, did he ? "

" Yes, my lord," replied the indignant one, in high hopes of immediate redress.

" Then," quoth the future Iron Duke in a voice of steel, " all I can do is to advise you in future to produce your supplies punctually, for if General Sherbrooke said he'd hang you, by God he'll do it ! "

Incidentally, the eccentric but highly-accomplished Russian Commander, Suvorov, once went even further. For on one occasion he threatened his own Quartermaster-General, Colonel Dykov, with " five yards of rope " if he failed to impress on his own corps of commissaries that supplies were to be punctually produced " when he wanted them, *where* he wanted them."

The writing on the wall was plain to read—that responsibility for waggon and load could not be diffused, and should rest with the military authority. But distrust of the soldier's ability to handle matters of finance with wisdom and honesty persisted with all its traditional intransigence.

It is to be confessed that this want of confidence had not always been without warrant. In the days wherein colonels-commanding received a lump sum for the clothing of their regiments, for example, one avaricious C.O., seeking to pocket a bigger margin of profit, had clad his men in the cast-off uniforms of another unit, while the ' Solingen blades ' supplied to a certain cavalry formation had bent like a length of rubber hosing on being whipped smartly from their scabbards.

But such instances of petty knavery amongst the military were fortunately rare. It was the peculation and slackness of the commissaries which formed the burden of complaint when the military took pen in hand to air their grievances.

Without question, it was the scandals connected with the early days of the Crimean campaign which finally served to focus attention on the whole question of supply and transport, and the divided responsibility which left the man in the ranks—and his officer too, for that matter—without any reasonable ' comforts ' and often lacking in the very barest necessities. No greatcoats or warm underclothing in which to face the bitter Black Sea Winter ; coffee issued in the raw green bean, with no facilities provided for roasting and grinding it ; no regimental messing, but each man expected to cook for himself although entirely unprovided with the necessary fuel ; crate upon crate of desperately needed boots and socks and bale after bale of forage accumulating at the Balaclava base for want of the necessary integration of effort required to get them up the line ; telegrams exchanged as to the particular kind of porter favoured by the Brigade of Guards when all the time the poor devils had neither food in their bellies nor soles to their boots—a more staggering parade of all-round ineptitude on the part of the commissaries charged with the task of maintaining an army has yet to be seen. So outrageous were conditions, indeed,

that the Commissariat was abruptly changed over from the charge of the Treasury to the care of the War Office; an officer of the Quartermaster-General's Department, Colonel Weatherall, brilliantly improvising a Land Transport Corps, in whose composition and assumption of responsibility *for both waggon and load* may be found the genesis of that supply organization which has since been adopted—with minor variations—by every responsible War Department in the world.

Of necessity, the process of militarizing the whole structure of supply and transport proceeded along the stony path of trial and error; and so late as 1871 General Philip Sheridan, United States Military Commissioner with the German Army in the Field, could write confidentially to Ulysses Grant that he found supply arrangements, other than those of the Ordnance, far from satisfactory, " the Quartermaster's Department specially wretched."

But the knell of the civilian commissary had been sounded. More and more the tendency manifested itself to bring the whole question of subsistence under direct military control. With the grant of full military status to the officers and men of the Supply and Transport Service, with the same opportunities for promotion and the same rights of pension as those enjoyed by the Cavalry, Artillery, and Infantry, " the palsied hand of the civil administration " [11] was at last prised loose. For the future, the soldier could look to another soldier to furnish him with any one of the multifarious things the fighting-man must have consistently and punctually at his disposal if he is to do his job with the maximum of efficiency.

The commissary has gone, his passing generally unlamented; the years of his activity have been commemorated in no memorial.

Yet, at his best, he was hard-working, trustworthy, fecund in resource and fertile in improvisation. Vilely underpaid yet entrusted with the handling of considerable sums of money, it was more than could be expected that his integrity should always have been proof against temptation. But all in all he gave sound service that was little appreciated and can never have been anything but wearisome and exacting.

As to his military successor, the ' Quarter-bloke,' well, we may joke rather acidulously about him in ' the piping times of peace,' but with the coming of war it is not long before we are driven very freely to admit that, in reality, no more hard-working, resourceful, and sterling a fellow ever donned his country's uniform or sweated in the unwearying service of his comrades. Erwin Rommel, whose claim to fame will ever rest on his work in that " paradise for tacticians and hell for supply officers," the Western Desert, has laid it down that, " Before the fighting proper, the battle is fought and decided by the Quartermasters."

With logistics the governing factor of modern war, this, obviously, is a dictum whose truth is not to be gainsaid. For in the final analysis the whole problem of logistics reduces itself down to the efficiency or otherwise of the man whose actual job it is to ' dish it out '—the ' Quarter-bloke.'

[11] Fortescue, *A History of the British Army.*

SIR CLOWDISLEY SHOVEL'S LAST PASSAGE

By G. J. Marcus

IN the days of sail the entrance to the English Channel was, without doubt, one of the most hazardous landfalls in the world. No part of the coasts of the British Isles is more subject to sudden changes. Since a fair wind up-Channel—that is, at south-west—was always liable to fly to the northward, vessels standing along the south side would find themselves immediately on a dead lee shore should such a change occur. On the French side of the Channel, too, from Ushant to Alderney, there are numerous islands, rocks, and outlying dangers. It is to be observed that along this shore, and among the islands and rocks, the flood-tide, at the distance of some 30 miles off the land, sets to the south-east, while the ebb does not set north-west, but west. The result is that vessels driven towards this coast by north-westerly gales would not have the tide to help them off and would be most liable to be driven on shore.

On the other hand, vessels coming into the soundings on a more northerly parallel were confronted by equal, if not greater, dangers. Some 20 miles to the westward of Land's End lie the rock-girt Isles of Scilly. According to an old Scillonian tradition the islands have witnessed the doom of as many good ships as there are rocks in the archipelago, and the number of these rocks must total several hundred. Away beyond the Scillies stretch the iron-bound coasts of Cornwall and south-west Wales, fringed by dangerous rocks and islets like the Seven Stones, Wolf, Longships, Stags, Brisons, Shutter, Skokholm, and the Smalls. Moreover, after strong or long-continued south-westerly or westerly winds have prevailed in the vicinity of the Bay of Biscay, a set or current often sets obliquely across the western approach to the Channel. This may well sweep a vessel towards, or northward of, the Isles of Scilly.

For centuries it was known to mariners that vessels coming into the Channel soundings were liable to be set considerably to the northward of their reckoning. In the reign of Charles II, Sir John Narbrough remarked that one of his captains had observed that, in his experience, one always got " farther north than one's reckoning in coming into the Channel from the south." On this occasion Narbrough's squadron, homeward-bound from Lisbon and steering cautiously for the entrance of the Channel " with only our fore-topsail on the cap all night," found itself, in the early morning of 22nd May, 1673, " entangled with rocks called the Bishop and Clerks. Our being northerly more than expectation," Narbrough declared, " is by the current that do constantly set northerly ; the soundings also deceived men in their depth and ground, for the same depth is five leagues S.W. from Scilly as is five leagues W. from Scilly ; also heave the lead three times one after another as fast as you can, and you will find the ground to differ every cast ; sometimes sand and sometimes sand and stones, etc., will come up in the tallow, which deceiveth men."[1] It was this special difficulty in approaching the Channel, this danger in coming into the soundings, that gave rise to the great importance attached by the old navigators to what they called the three L's—Lead, Latitude, and Look-out.[2]

---

[1] *Journals and Narratives of the Third Dutch War*, ed. R. C. Anderson (1946), pp. 286–7. Cf. Hydrographic Dept., Admiralty, *Channel Pilot*, Part I (ed. 1931), pp.2,9.

[2] J. K. Laughton, *Physical Geography* (1870), p. 214. It was also probably for this reason that, in an earlier era, British vessels appear to have entered the Channel on a more southerly parallel than became the practice in later times : see James Rennell, *Observations on a Current*, etc. (1815), p. 53.

Such was the primitive state of navigation in the English Navy in the late 17th century that, even under the most favourable conditions, considerable doubt not infrequently existed as to a ship's position when passing through the soundings. There was a revealing example of this on the return passage of Lord Dartmouth's expedition to Tangier. "Strange the disagreements in so fair weather," Pepys recorded on 29th March, 1684, "with so fair a wind immediately upon a fair observation and clear soundings at 65 fathoms and 49° 34′ latitude, among our navigators about the entrance into our Channel, my Lord and Mr. Phillips being very positive that we were shot to the Eastward of Scilly, while Sir William Booth and the Master and mates were of opinion that we were yet to the westward, and one part of them apprehensive of our running upon the French coast, and the other upon the English, some being for lying by all night, others for sailing boldly forwards, as we did, due East."[3] There had been much the same uncertainty on the outward passage, when the squadron was in the vicinity of the coast of Portugal, the 12 several persons that kept account in Dartmouth's flagship being from 25 to 75 leagues out in their reckoning—"so that had it not been for the calm we have had," Pepys remarked, "or if we had come upon them in the night, the whole fleet probably would have been upon the Burlings." Later, Pepys added: "It is generally confessed that the East Indies masters are the most knowing men in their navigations, as being from the consideration of their rich cargoes, and the length of their sailing, more careful than others, casting their log every hour, whereas we do it but every two, and God knows that done by some very ignorant and unskilful hand, especially in the night, upon which the whole judgment of a ship's run depends . . . so that it is by God Almighty's providence and great chance and the wideness of the sea that there are not a great many [more] misfortunes and ill chances in Navigation than there are."[4]

Because of all the unpredictable factors inherent in dead reckoning, or navigation by account, the hazards in approaching the entrance to the Channel were immensely increased when observations became impossible, and the navigator was obliged to fall back on dead reckoning.[5] For these reasons it became the practice about the turn of the century to send out cruisers to the soundings to assist a homecoming squadron to make the land.

It was William III, with his profound insight into continental politics, who had inaugurated the new strategy by which the Allied main fleet was employed in the Mediterranean—either wholly or in part—as the disposition of the enemy's forces required: thereby keeping a fleet interposed between the two principal centres of French maritime power, on the Atlantic and Mediterranean coasts. On the renewal

[3] *The Tangier Papers of Samuel Pepys*, ed. E. Chappell (1935), p. 248.

[4] *Ibid.*, pp. 126–7.

[5] According to the time-honoured definition, "A ship's reckoning is that account, by which it can be known at any time where the ship is, and on what course or courses she must steer to gain her port." The vagaries of D. R. are justly summed up by Nevil Maskelyne. "Daily experience shows the wide uncertainty of a ship's place, as inferred from the common methods of keeping a reckoning, even in the hands of the ablest and most careful navigator. Five, ten, or even fifteen degrees are errors which no one can be sure he may not fall into in the course of long voyages. The water is so fluid an element, and so easily put in motion by the force of the wind, or the action of the sun and moon upon it, and these motions are so readily propagated to great distances, that it is not to be wondered at, that hitherto no means have been found out of allowing for the effects of such variable and irregular causes": see Maskelyne, *The British Mariner's Guide* (1763), p. i.

of hostilities in 1702, these great strategical designs were inherited by John Churchill, Duke of Marlborough, who proceeded to send the bulk of the Confederate fleet to the Mediterranean to operate on the flank of the Allied armies, transporting not only troops but also supplies, munitions, and equipment, and at the same time denying similar support to the forces of the enemy. The result of these operations was to establish Great Britain, once and for all, as a Mediterranean power.

However, for want of a port inside the Straits on which the Allied fleet might be based the whole year round, our admirals had been forced to run heavy risks in going out early and coming home late in the season. " Time is precious," Sir George Rooke protested to Nottingham on 1st June, 1702, " so that I must repeat my opinion that no service can balance the hazard of bringing our great ships home in the winter season." Later, he expressed his hopes that the Cabinet " are very well assured of a southern winter port for our great ships, or I'm sure I shall dread the consequences of their coming home in that season." Van Almonde, the Netherlands admiral, was of the same opinion as Rooke.[6] According to Horace Walpole, " Sir Clowdisley Shovel said that an admiral would deserve to be broke, who kept great ships out after the end of September, and to be shot if after October."[7] Nevertheless, Rooke left Cadiz for England in September, 1702, and Gibraltar in August, 1704 ; while Sir Clowdisley Shovel remained inside the Mediterranean until the end of October in 1703, and again in 1705.

The capture of Toulon had been the prime objective in the naval war since Savoy joined the Grand Alliance in 1703. Such a project, if successful, must spell the ruin of French sea power in the Mediterranean ; moreover, with Toulon in Allied hands, the vital problem of a base within the Straits for the Confederate Fleet would finally be solved. " It seems to me," Marlborough declared, " that if we succeed in making ourselves masters of Toulon, we must not destroy the port but keep it, which will enable not only a squadron but a great part of the fleet to winter in the Mediterranean." Throughout the summer of 1707 the Allied fleet, under the command of Sir Clowdisley Shovel, assisted by Sir George Byng and Sir John Norris, co-operated energetically with the Imperial Army, led by the Duke of Savoy and his brother, Prince Eugene. It was largely owing to Shovel's perseverance that, though the project failed as to its main objective, it led to the ' half-sinking ' of the enemy's fleet in Toulon harbour. The French Grand Fleet suffered so much damage thereby that, in the then state of the French finances, it was virtually wiped off the board.

This was Shovel's last service. The Allied fleet, having covered the retreat of the armies until they were safely back across the Var, sailed for Gibraltar. There the fleet divided ; part of our ships were left behind for various duties, the remainder—15 sail of the line and five lesser vessels[8]—sailed at once for England with Shovel, Byng, and Norris.

Shovel in his flagship, the *Association*, 100, weighed from the Bay of Gibraltar on the afternoon of 29th September and took his departure from Cape Spartel. In 1703, and again in 1705, Shovel had made the homeward passage even later in the season. In 1705 the *Association* had left Gibraltar on 9th November and anchored

[6] Corbett, *England in the Mediterranean*, II, 198.

[7] *Letters of Horace Walpole*, ed. Toynbee (1902), IV, 340.

[8] Viz., the *Association, Royal Anne, St. George, Somerset, Torbay, Eagle, Monmouth, Swiftsure, Romney, Panther, Orford, Rye, Lenox, Valeur*, and *Cruizer ;* the *Firebrand, Vulcan, Phoenix, Grafton*, and *Weazel*.

in St. Helen's after a passage of 17 days. In 1707 the same passage took the fleet 27 days—and the *Association* never reached port at all. In 1705 the fleet had good sights; in 1707 observations on most days were impossible.[9]

At this stage it is important to take notice of the winds. Strong westerly winds had prevailed on this side of the Atlantic throughout most of September. On 5th October it again blew hard from the west, "a very violent gale"; on the 7th and 8th the wind was W.S.W. and S.W., "very hard gales" and "a great sea." On the 15th–17th strong westerly winds again prevailed off the Atlantic coasts of Spain and Portugal.[10] These were precisely the conditions which, as has already been explained, might be expected—combined with the effect of the tidal streams off the entrance of the Channel—to result in a dangerous northward set. So it had been on the homeward passage of Narbrough's squadron in 1673.[11] So it was to be on innumerable occasions in the future.[12]

On the morning of 21st October the fleet came into the soundings.[13] At three o'clock the cruiser *Valeur*, which was apparently ahead of the rest, found 90 fathoms, "white sand with hake's teeth."[14] The *Torbay* at nine o'clock found 135 fathoms, fine sand and ooze. At eleven the *Swiftsure* had 130 fathoms, fine sand. The *Somerset* sounded three times finding no bottom at 145 fathoms: but some vessels three or four miles to the northward found 93 fathoms, fine white sand. An hour later the *Lenox* found 88 fathoms, brown sand. At noon good observations of latitude were obtained: 48° 57′ by the *Torbay*, 48° 55′ by the *St. George*, 48° 52′ by the *Cruizer*, 48° 50′ by the *Lenox*.[15] Taken in conjunction with the soundings, these observations would place the fleet possibly some 200 miles S.S.W. of Scilly.

Early on the 21st the wind had backed from north to south-west and south-south-west—a fair wind up-Channel. "About 8 this morning," the master of the *Phoenix* recorded, "we had a fresh gale of wind at W.S.W." It was squally, and some of the ships took in reefs in their topsails. Runs of well over 100 miles were logged on both the 20th and 21st. On the evening of the 21st the fleet sounded again. At half-past four the *Cruizer* found 90 fathoms, "coarse sand full of little red shells." At five the *Monmouth* had 92 fathoms, "fine white sand with some pieces of small shells," and the *Valeur*, 90 fathoms, "rust brown sand with scallop shells." "At

[9] Captains' journals, *Association, Lenox, Monmouth, Torbay*. See also Abel Boyer, *The History of the Reign of Queen Anne* (1708), VI, 241.

[10] Masters' journals, *Garland, Hampshire, Lenox, Panther, Rye, St. George, Salisbury, Southampton, Swiftsure*.

[11] Master's journal, *Newark*. See also Anderson, *op. cit.*, pp. 278–85.

[12] See Rennell, *op. cit.*, pp. 8, 13–6, 46 ff. A good example was that of the *Gorgon*, frigate, homeward-bound from Lisbon in the autumn of 1794, which narrowly escaped destruction on the rocks of Scilly when believed to be in the fairway of the Channel: see Captain's journal, *Gorgon*, and also *Recollections of James Anthony Gardner*, ed. Hamilton and Laughton (1906), pp. 157–8.

[13] On the same day the *Tartar*, frigate, left Plymouth with instructions "to look out for Sir Clo. Shovel and his squadron to give him an account how the land bears from him, and the better to enable him to give a just account thereof, he is to make the land once every day if conveniently he can: to continue till he meets Sir Clo. Shovel, hears he is passed by him, or till further order": see *Board's Minutes*, October, 1707. The *Tartar* returned to Plymouth on the 24th without seeing anything of Shovel's squadron.

[14] These were small shells resembling (and called) hake's teeth.

[15] Masters' journals, *Cruizer, Lenox, St. George, Somerset, Swiftsure, Torbay, Valeur*.

five this evening we sounded with our boat," wrote the master of the *Panther*, "having 85 fathoms, white sand with pieces of white and red shells." At six the *Torbay* found 90 fathoms, fine sand, and the *St. George*, 85 fathoms, small black sand. The master of the *St. George* then "allowed ye Lizard by ye depth of water to be 64 leagues distant from me," bearing E.N.E.¼ N.[16]

This would appear to have been a somewhat hasty assumption on the master's part. To be sure, depths of 85 fathoms may be found on that bearing. But similar depths exist in various other areas of the Channel soundings—some of them well to the northward. The sounding of "small black sand," suggests, indeed, that the *St. George*, on the evening of 21st October, may have been somewhat north of latitude 49° 30′, which is that of the fairway of the Channel.[17]

The fleet was steering E.N.E.—a risky course, as experience has often shown, in weather that does not allow of good sights for latitude. At eight o'clock next morning the *Swiftsure* found 80 fathoms, "coarse sand, with some glittering shells"; the *Panther*, 70 fathoms, "white sand, having things like points of needles"; the *Monmouth*, 70 fathoms, "white and grey fine sand." Since the previous day the wind had been south-westerly and freshening. It now blew a strong south-westerly gale, with rain and thick weather. "Strong gales and hazy," recorded the master of the *Panther*. "Strong gale and great sea," wrote the master of the *Somerset*.[18] At eleven the *Lenox*, *Valeur*, and *Phoenix*, ordered away to Falmouth on convoy duty, parted from the fleet.[19] On the 22nd no observations were possible.[20] For various reasons no clear guidance could be expected from the depth and nature of the ground brought up by the lead. As has already been said, the present passage had been a long one, and Shovel was steering much the same course as in 1703 and in 1705, when his fleet had made a good landfall.[21] This, and a fair wind up-Channel, appears to have dispelled a sense of caution. At noon the master of the *Torbay* estimated his position to be, by dead reckoning, latitude 49° 30′. At four o'clock in the afternoon the fleet brought-to and sounded. The *Swiftsure* found 65 fathoms, "branny sand with stones like beans." The *Monmouth* had 60 fathoms, fine white sand. The *Torbay* found 55 fathoms, rocky ground. The *Cruizer* found 53 fathoms, "branny sand with pieces of red masked shells." The *Panther* found 47 fathoms, fine white sand.[22] It was thick and blowing weather, and night was approaching; the fleet was coming within the 60-fathom line,[23] and under the worst possible conditions.

[16] Masters' journals, *Cruizer, Monmouth, Phoenix, St. George, Torbay, Valeur.*

[17] According to Narbrough's journal, the day before his squadron so nearly ran on the rocks of Scilly, in May, 1673, the same tell-tale "black specks" had twice been brought up by the lead. His observation of latitude on that occasion proves beyond doubt that he was then to the northward of lat. 49° 30′. See Anderson, *op. cit.*, p. 285. *cf.* Captain Pelham Aldrich, R.N., *English Channel: Remarks on Approach* (*Hydrographic Dept., Admiralty:* M.S., 1890).

[18] Masters' journals, *Monmouth, Panther, Somerset, Swiftsure.*

[19] Captains' journals, *Lenox, Valeur, Phoenix.*

[20] Masters' journal, *St. George, Swiftsure, Torbay.*

[21] Captain's journal, *Association.*

[22] Masters' journals, *Cruizer, Monmouth, Panther, Somerset, Swiftsure, Torbay.* At seven the *Somerset* sounded again and found only 40 fathoms, "fine sand with small stones and pieces of small shells." See Joshua Kelly, *The Modern Navigator's Compleat Tutor* (1727), pp. 106–7.

[23] See J. M. Norie, *The New British Channel Pilot* (1839), p. 154; Hydrographic Dept., Admiralty, *Channel Pilot*, Part I (ed. 1947), pp. 21, 45.

None the less, relying on their dead reckoning and the apparent corroboration of the soundings,[24] the Admiral took the fatal decision and determined to sail on. It is presumed, as was later reported, he believed that he had the Channel open.[25] Order was given to make sail. Soon after six the fleet bore away.

The *Association* stood away under her courses, steering E. by N., until at about eight o'clock the flagship and several of the other vessels suddenly found themselves among breakers and rocks and made the signal of danger. Soon after a number of them were caught on the rocky ledges projecting to the south-westward of St. Agnes Island. The *Association* struck on one of the group of rocks known as the Bishop and Clerks and immediately went to pieces.[26] Sir Clowdisley Shovel and all the ship's company were lost.[27] The *Eagle*, Captain Robert Hancock, and the *Romney*, Captain William Cony, sailing inshore of the flagship, were wrecked about the same time. Except for one man saved out of the *Romney*, all hands were drowned.[28]

The *Firebrand* fireship was close to the flagship. According to her commander, Captain Percy, at about a quarter to eight he heard the *Association* fire a gun and at once lost sight of her light. He soon perceived that the *Association* was lost, " being then close on board the rocks call'd the Bishop and Clerks, where also the *Firebrand* herself struck and bulg'd ; but immediately backing her fore-sail, he got his own ship off again and steered for the light on St. Agnes : but before the *Firebrand* could reach the shore she went down " in ten Fathoms of Water." Captain Percy and 17 of the men saved themselves in the ship's boat, and five more got ashore on a piece of wreckage.[29] Another of the fireships, the *Phoenix*, being " shot so far in " that she came within less than a mile of the Scilly light, was unable to weather the northward rocks of Scilly. She endeavoured unsuccessfully to go about ; and then, in wearing, she likewise ran aground.[30] Sir George Byng in the *Royal Anne* and Lord Dursley in the *St. George* all but shared the fate of their Admiral. " The *Royal Anne* was sav'd by great presence of mind in both officers and men, who in a minute's time set her top-sails, one of the rocks not being a ship's length to leeward of her, and the other, on which Sir Clowdisley Shovel was lost, as near, and in a breach of the sea."[31] " Nor had the Lord Dursley, Commander of the *St. George*, a less miraculous escape ; for his ship was dash'd on the same ridge of rocks with the *Association*, and the same wave which he saw beat out all Sir Clowdisley's light, set his own ship a-float."[32]

---

[24] With these soundings the fleet might equally have been to the *west* or *south* of Scilly : the soundings of from 55 to 60 fathoms westward and southward of Scilly do not materially differ.

[25] *Daily Courant*, 1st November, 1707.

[26] The place where the *Association* actually struck was Gilstone Ledges, which was for long known as the Shovel Rock.

[27] There are grounds for supposing that the Admiral was washed up in Porthellic Cove, St. Mary's Island, alive but unconscious ; and was then murdered by one of the islanders for the sake of the emerald ring that he wore.

[28] Master's journal, *Somerset ; London Gazette*, 1st–3rd November, 1707 ; Boyer, *op. cit.*, vi, 241–2 ; Josiah Burchett, *A Complete History of the Transactions at Sea* (1720), p. 733 ; Thomas Lediard, *The Naval History of England* (1735), pp. 821–2.

[29] *London Gazette*, 1st November, 1707.

[30] Captain's journal, *Phoenix*.

[31] *London Gazette*, 3rd November, 1707.

[32] Boyer, *op. cit.*, vi, 242.

" At six made sail," the master of the *Torbay* declared, " and at eight we saw a breach [breakers] on the larboard bow and rocks ; then we wore and laid our head to the westward and in wearing we came near the rocks ; then we saw the light of Scilly bearing E. by N. and Sir Clowdisley's light E. by S.½S., 3 miles ; we saw Sir Clowdisley's light no more. . . ."

The *Monmouth* was apparently one of the first ships to sight the light to the eastward, and after that a rock on her starboard bow. " We wore the ship," observed her master, " stood away to the westward, showed many lights, fired a gun, etc., it being signal for the fleet, of our being in danger." The *Swiftsure* also saw the light on Scilly—" fired several guns," and bore up in time ; and at that same instant she sighted the Bishop and Clerks.[33]

At seven o'clock the *Somerset* had been sailing on the same course as the *Association*, but over a mile to windward. The *Somerset* then took in her topsails and set her courses. Shortly after her look-outs sighted the light on Scilly to the northward.[34] At half-past eight they observed that the Admiral's light had suddenly vanished. At the same time the light of the *Royal Anne*—which was likewise to leeward—disappeared. It is recorded that those on board the *Somerset* " heard and saw a great many guns fired in several places," which they rightly supposed to be vessels in danger. The rest of the squadron appears to have been farther out to sea. The *Panther*, which to judge from her soundings was one of these, saw the flash of guns to the north-eastward, and later the Admiral's light extinguished ; her people then saw the light on Scilly bearing N.E. by N., and forthwith " hove out our maintopsail and hauled off south-easterly, every ship to shift for himself."[35]

Several of the Soundings cruisers had put into St. Mary's Roads that afternoon to shelter from the gale. The master of one of these frigates, the *Salisbury*, recorded in his journal how that night, as he stood in the starboard gangway, he saw to the south-west " several flashes of guns and told them to the number of 30 . . . and this morning before day, being little wind, drove by us vast quantities of wrack." The master of the *Southampton* related how the *Phoenix* fireship " beat in over the rocks behind Samson Island and got into Grimsby." Soon after daybreak the *Salisbury* sent her boats to the assistance of the *Phoenix*, which was badly holed and full of water. The survivors from the *Firebrand* and *Romney* were later given passage to Plymouth in the *Salisbury*, which also bore the corpse of Sir Clowdisley Shovel.[36]

Of the six vessels which struck on the rocks that night, four—the *Association*, *Romney*, *Eagle* and *Firebrand*—had gone to the bottom, and two—the *Royal Anne* and *Phoenix*—had got off again.

What had happened to the *Lenox* and her companions is not very clear. Since parting from the fleet in the forenoon of the 22nd (believing herself to be near the meridian of Scilly) she had steered a north-easterly course till about seven, when course was altered to E.½S. According to the captain's journal, she was thought

---

[33] Masters' journals, *Monmouth, Swiftsure, Torbay.*

[34] The lighthouse at this date was situated on St. Agnes Island (lat. 49° 54′ N.). The southernmost rocks of Scilly are in lat. 49° 52′ N.

[35] Masters' journals, *Panther, Somerset.*

[36] Captains' journals, *Phoenix, Salisbury, Southampton ;* Masters' journals, *Salisbury. Southampton.*

" to be then in 49° 37′ N. latitude and to the eastward of Scilly."[37] By midnight the fog was very thick ; two and a half hours later her people suddenly saw the rocks of Scilly,[38] after which they bore up to the north-westward. The stranding of the *Phoenix* does not seem to have been witnessed by the *Lenox*. The latter arrived in Falmouth Roads, in company with the *Valeur*, on 24th October.[39]

" After we had wore," said the captain of the *Torbay*, " we made the signal of danger and all night stood to the north-west." The *Torbay* with a number of other vessels passed up by the Crim Rocks and Nundeeps, the Dogs of Scilly showing their fangs in the raging waters beyond ; they stood on by the Steeple, Mincarlo, Maiden Bower, and Castle Bryher, and presently got clear of all dangers. Early next morning the wind veered to the north and moderated. The *Swiftsure* set her topsails and shook out her reefs. Seven vessels, including the *Torbay* and the *St George*, with the *Swiftsure* leading, now stood to the southward. According to the master of the *Monmouth*, it was " very dark, close hazy weather." Under sullen grey skies a heavy sea was still running, and at five o'clock in the afternoon some of the westernmost rocks of Scilly, " bearing by compass E.N.E. distant four leagues," were a smother of surging sprays and broken water. Slowly the wave-lashed skerries faded from view in the gathering dusk ; next day, 24th October, " we make the best of our way up-Channel," wrote the master of the *Monmouth*, " . . . at 5 in the evening the Lizard bore N.N.W. of us, distant 5 leagues." The *Royal Anne*, *Orford*, *Ipswich*, *Cruizer*, *Somerset*, *Panther*, and *Rye* anchored at Spithead on the morning of 25th October. The *Monmouth* and several other vessels of the scattered fleet came in somewhat later.[40]

* * * * *

The disaster of 1707, although certainly the most memorable of its kind, was but one among many which must be attributed to the same cause ; namely, an error in reckoning due to the variable northerly set across the entrance to the Channel.[41] " We were much to the northward of what was expected," said the captain of the *Torbay*, " and likewise more to the eastward." " I am surprized to find my ship so far to the northward," said the captain of the *Lenox ;* ". . . and indeed can impute it to nothing but the badness of the compass which was very old and full of defects."[42]

---

[37] Captain's journal, *Lenox*.

[38] " fell into a breach of rocks off Scilly but wore off without touching " : see Master's journal, *Lenox*.

[39] Captains' journals, *Lenox*, *Valeur*.

[40] Captains' journals, *Rye*, *Torbay ;* Masters' journals, *Cruizer*, *Monmouth*, *Panther*, *St. George*, *Swiftsure*.

[41] " For when you come near the soundings," Joshua Kelly noted in his *The Modern Navigator's Compleat Tutor*, " and till you bring Ushant south of you, on the E.S.E. course, *you will hardly hold your latitude*." " It is a circumstance well known to seamen," wrote Rennell, " that ships, in coming from the Atlantic, and steering a course for the British Channel, in a parallel somewhat to the *south* of the Scilly Islands ; do, notwithstanding, often find themselves to the *north* of these islands " : see Rennell, *op. cit.*, pp. 47–8, 55–6.

[42] Captains' journals, *Lenox*, *Torbay*.

In view of the fact that so many of the other vessels were also in difficulties, however, it is improbable that the compass was the real cause of the trouble.[43]

The news of the loss of Sir Clowdisley Shovel and so many of his men, coming as it did on top of Du Guay-Trouin's recent success against our Lisbon convoy, struck dismay into the hearts of Englishmen. " The news of Sir Cloudsley Shovel, and the *Association's* being lost," was the *Observator's* comment, " has quite sunk my spirits."[44] Contemporary criticism centred upon the unfortunate Admiral. " It was very unhappy," the *Spectator* declared, " for an Admiral, reputed one of the greatest sea commanders we ever had, to die by an error in his profession ; which could not have happened, if a proper care had not been wanting."[45] " It cannot be imagined but that this sad accident occasioned a very great surprize at home," observed Burchett,[46] " especially since so experienced a seaman, and so good an officer as Sir Cloudesley Shovel was had the conducting of the fleet, and there were other Flags, as well as private captains, with him of undoubted knowledge. As I cannot undertake to give the true cause of this unhappy miscarriage, I shall leave it with this common observation, that upon approaching land after so long a run, the best Looker-out is the best Sailer, and consequently the lying by in the night time, and making sail in the day, is the most safe, which I think this unhappy Gentleman did not do."[47]

With this verdict probably the majority of seamen would find it hard to disagree.

[43] Attention is to be drawn to the case of the *Belliqueux*, a French ship of the line, which, on passage from Quebec to Brest in 1758, found herself up the Bristol Channel, where she was forced to strike. James Rennell, in an important paper read before the Royal Society on 6th June, 1793, cites a number of revealing instances : see Rennell, *op. cit., passim*. Moreover, there have been a good many casualties and near misses during the last 50 years or so due to the effect of this set. " One of our crack Atlantic liners (I won't mention names) coming from New York ; instead of being well south of the Scillies, found herself north of these islands, and sighted the Seven Stones Lightship. This despite the fact that the captain was one of the most able and careful navigators on the North Atlantic " : see C. H. Lightoller, *Titanic and Other Ships* (1935), p. 115. For the stranding of the S.S. *Minnehaha* in the Isles of Scilly in the spring of 1910, see the *Times*, 4th June, 1910.

[44] *Observator*, 25th October, 1707 ; *Daily Courant*, 30th October, 1707 ; *Post Boy*, 1st–4th November, 1707 ; *London Gazette*, 1st–3rd November, 1707.

[45] Burnet, *A History of His Own Time* (ed. 1823), II, 485.

[46] The Secretary of the Admiralty.

[47] Burchett, *op. cit.*, p. 733.

THE ARMY CADET FORCE

By Captain W. F. L. Newcombe, O.B.E., T.D.

THE publication of the War Office Committee's report on the Army Cadet Force on 15th October, 1957, has brought this organization into some prominence. Proposals are made to increase its efficiency and generally to bring it into line with modern conditions and requirements. These will be discussed below. But first, so as to get the Army Cadet Force into focus, it may be appropriate to examine its history and present position.

Historical Background

The modern A.C.F. stems directly from the formation of the Volunteers in 1859. At that time the Government was sufficiently alarmed by the implied threat of developing French armaments to invite all Lords Lieutenant of counties to form rifle volunteer battalions for home defence, and public opinion was alert enough to accept the invitation. The Volunteers were formed and almost immediately cadet units were raised. Some of these were in schools where they had originally an operational role. Others were cadet companies of the rifle volunteer battalions, designed primarily to act as feeders for their parent units. It is significant that these cadet units were not formed by Government action ; they arose, as it were, by spontaneous generation. It was not until 1863 that the War Office officially recognized the cadets. Then, in the second edition of the Volunteer Regulations, 12 articles were devoted to them. When the threat receded, the Volunteers and cadets continued. Particularly in the schools the movement took root and in the 1880s it was further strengthened by the institution of the annual Public Schools Camps and, in shooting, by the encouragement given by the National Rifle Association.

The open cadet units also grew. These units recruited any boys available, but mainly those who left school and went to work at about 12 years old. When the Victorian conscience came to realize the bad conditions of living and employment which existed in many of the manufacturing towns, a number of agencies were set up to help. These included the first Boys' Clubs and Church organizations such as the Boys Brigade. It was obvious that some of the best volunteer officers should see the opportunity which cadet units offered not merely to train future volunteer soldiers, but equally to rescue and train boys. Close order drill and the Bible were the two basic ingredients in youth training 80 years ago, as Sir William Smith, Octavia Hill, and General Gordon each demonstrated in their own way.

By the time of the South African War, cadet units were well established. The majority of the public schools had corps and some of the open units were very strong. An example of the latter was the first Cadet Battalion of the King's Royal Rifle Corps, which had a strength of over 1,000 cadets. This Battalion equipped and sent overseas a detachment of 70 senior boys, who were part of the City Imperial Volunteers. After the war, it was awarded a Battle Honour by King Edward VII.

The Haldane reforms saw a split in the Cadet Force. All schools which had corps of over 30 cadets were invited to form contingents of the new junior division of the Officers Training Corps, while the remaining schools and the open units were reformed into the Territorial Cadet Force. This division has lasted since 1910. The O.T.C. was renamed the Junior Training Corps in 1939 and was expanded to form the Combined Cadet Force in 1947. The C.C.F. is now a flourishing organization with some 70,000 cadets in 340 schools and has no direct links with the Army Cadet Force.

The A.C.F. naturally expanded before and during the first World War. As an organization it is extremely sensitive to the climate of public opinion and its strength always tends to reflect the current interest in, or indifference to, soldiering. Under the stimulus of the War it expanded fast until it had a strength of 122,000 cadets. But later its fortunes declined under the dual influence of pacifist propaganda and financial stringency until, in 1930, all Government grants and even recognition was withdrawn from an attenuated A.C.F. with barely 10,000 cadets in it. At that time the very existence of the A.C.F. was in question and its survival was only ensured by the vigorous action of Field-Marshal Lord Allenby, who formed the British National Cadet Association as a body which could, and did, fight for the cadets.

By 1936 the tide had turned and War Office grants and assistance were again given. In 1942, as a result of a decision by the War Cabinet, the A.C.F. was quickly and widely expanded to a strength of 175,000. This was made possible by a number of administrative reforms, increased Government help in cash and kind, much hard work by many people, and above all, by the insistent demand from the boys themselves which produced cadet units in every county, town, and many villages, in the United Kingdom.

Since the second World War the strength of the A.C.F. has inevitably declined. There are several causes for this, such as the removal of the direct war stimulus, the continued inevitability of National Service, and the rapid growth of counter-attractions for the young. But unquestionably the biggest single cause, which has affected other youth movements as well, has been the acute shortage of good volunteer officers who combine enthusiasm for cadet work with the necessary technical skill and, above all, the stamina to keep it up over long periods of time. The problem of finding good local leadership in adequate quantity dominates all voluntary work in this country.

The Present Position

Notwithstanding this shortage of leaders the A.C.F., which the War Office Committee examined earlier this year, is a good going concern. It has a strength of 3,600 officers, 2,300 adult instructors, and 49,000 cadets. It is well spread over the country with detachments as far north as the Shetlands and Orkneys, and in every county in Great Britain and Northern Ireland. Local administration is in the competent hands of the County Territorial and Auxiliary Forces Associations, working through Cadet Committees. In each county there is a cadet commandant who is, in every sense, the key man. He is responsible for the selection of officers, maintaining the standards of units, and for keeping the A.C.F. in a state of good relationship with outside bodies such as the Regular and Territorial Armies, the local education authorities, the churches, and other youth organizations. The present A.C.F. is indeed fortunate in its commandants. Some are retired senior officers who make the A.C.F. their main interest, others are active businessmen, often former Territorial Army commanding officers, who devote their energies and talents to the cadets.

On the national level, the War Office is responsible for the organization, administration, and military training of the A.C.F., while the Army Cadet Force Association, in addition to acting as the official advisory body on all A.C.F. affairs, is the controlling authority for all citizenship and recreational training.

The purpose of the A.C.F. is better understood today than in the past. The two main objects are, and always have been, to interest boys in soldiering and to give them

the best all round character training possible. This is now accepted, and the A.C.F. is accordingly recognized as a youth organization in its own right by the Ministry of Education and the informed public.

The terms of reference of the War Office Committee on the A.C.F. were widely drawn. The Committee examined organization, administration, training, leadership, accommodation, publicity, and finance. Its first Chairman was Mr. Fitzroy Maclean, but for the main part of its life Mr. Julian Amery, the present Under-Secretary of State for War, took over. A great deal of evidence, verbal and written, was taken. The most important of its recommendations will now be discussed.

The Charter

The A.C.F. will have a new Charter. This reads :—

> The Army Cadet Force will train and inspire the youth of Britain to serve their Queen and Country. It will do so :—
>
> (1) by developing the cadet's character and powers of leadership,
> (2) by instilling in him the soldierly qualities of discipline, initiative, and self-reliance,
> (3) by arousing his interest in the Army and its traditions,
> (4) by teaching him the duties of a good citizen.

This Charter sets out clearly the job to be done. It opens on a strong patriotic note. This may strike some critics as being out of tune with modern sentiment. But of course it is right. It is quite certainly the *métier* of the cadet organizations to attract and encourage the patriotic element of the new generation, and it is equally certainly in accord with the A.C.F. tradition to say so in unmistakeable words.

The methods of doing the job are equally clear and in sound balance. Two are concerned with the development of character and two with the best aspects of soldiering. It is hoped that this Charter will stand for a long time.

Control

The Amery Committee has generally passed a vote of confidence in the present system of control of the A.C.F. In particular, the Committee approves the present system whereby local organization and administration is in the hands of County Territoral and Auxiliary Forces Associations. Important changes are recommended, however, on the Regular Army side. In order to ensure continuity at Command Headquarters, where the turn-over of staff officers is high, it is proposed to appoint retired officers, Grade II, with general responsibility for cadet forces. This has obvious advantages. The A.C.F., and indeed the C.C.F., is a strange world to many a Regular soldier, and to understand it he has to get to know the diverse personalities who keep the volunteer forces going in this country. In an area the size of a Command there are between 10 and 20 counties, each with their own Territorial and Auxiliary Forces Association and county commandant. There is no substitute for personal knowledge and experience, and certainly no textbook to teach the subtle but essential difference between the workings of Greenshire and Redshire. The appointment of good retired officers at Commands should prove a stablizing factor.

A most important proposal is that which provides for a senior Regular officer to be nominated to help and advise each commandant. He will be called the Affiliated Formation Commander and will be probably the local Territorial Army Brigadier or C.R.A. or C.R.E. His duties will include advising on the A.C.F. establishment in the county, camps, officer selection, examinations, and, most important, ensuring that good affiliation exists between the A.C.F. and the Territorial Army.

Affiliation

The Committee makes clear the importance it attaches to close working arrangements between Territorial Army and A.C.F. units. Their reasons are sound. All vocational youth organizations have an end in view. For example, it is obviously expected that most members of the Young Farmers' Clubs should become farmers, or that members of political youth groups should become party supporters. The obvious sequel to service in the A.C.F. is adult service in the Army. Since only a minority of boys are likely to become Regular soldiers, it is right to expect that the majority will become Territorial Army volunteers. That this has not happened so far can be blamed on a number of causes. One of these is National Service itself, which has taken nearly all the 18-year-olds at the very moment when they might be ready to enlist in the Territorial Army and which has inevitably clouded the picture to the young man and his parents. The entirely volunteer Territorial Army, which is re-emerging after 18 years, may prove much more attractive.

The Committee are not prepared to leave it to chance. They make positive recommendations for closer A.C.F./Territorial Army working which should help. But, above all, goodwill and intelligent understanding by both sides are essential. The Territorial Army must get to know the A.C.F., its objects, potentialities, and limitations, as many units do now. It must be patient and not seek to reap the harvest before the corn is ripe. Equally the A.C.F. must not be parochial in its outlook and must accept its proper role as a training organization for adolescents and welcome their departure when they are ready to go.

On one point the Amery Committee is firm. It rejects complete integration between the Territorial Army and the A.C.F. This is a superficially attractive solution which has received some support. It would break down in practice for one main reason. The Territorial Army is an adult fighting force; the A.C.F. is a voluntary organization for boys. The objects are not the same and in many cases call for different qualities in leadership. The A.C.F. is to retain its own chain of command, its own officers, and its own adult instructors. This apart, it is in the national interest that the two bodies shall work together as closely as possible.

Organization

One of the first tasks for Territorial and Auxiliary Forces Associations will be to examine their organization of A.C.F. detachments. They will have considerable latitude in this, but the Committee has rightly set its face against complicated chains of command and has plumped for simplicity. In the suggested county establishments every effort has been made to reduce the size of the staffs and to deploy the officers and adult instructors to the point where they are most needed—that is, in the detachments. Both the organization of detachments and establishments of officers are certain to involve considerable discussion between counties and the War Office before they are finally agreed. This is inevitable. Every county differs from its neighbour in size, population, communications, and local traditions. Thus a ready-made-down establishment is impracticable and a tailor-made one must be produced for each county.

Officers and Adult Instructors

The report of the Amery Committee makes the unchallengeable statement that, "the quality of the A.C.F. depends on its leaders, particularly the officers. It is necessary to attract into the Force as many as possible of the best young men in the country with an interest both in the care of youth and in its military affairs. If we succeed in this, the future of the A.C.F. is assured."

The first requirement which faces any Cadet Committee is to find suitable leaders in the right places. The report does not deal directly with this problem, but it is fundamental. There is no dispute about the type of men whom the A.C.F. needs as officers. Fortunately many such are in it already. But there will never be enough. What is true is that like attracts like, and good A.C.F. units generally get good officers. The report accepts this by inference and makes, as its first proposal, a tighter selection procedure. Each county will have a Board consisting of the County Commandant, the Affiliated Formation Commander, a Territorial Army Commanding Officer, and a member of the Territorial and Auxiliary Forces Association. Officers will be commissioned, as at present, in the Territorial Army General List, and those who have not previously held a commission will be required to serve one year on probation. Sensible medical standards and age limits are fixed.

The new rules on officers' rank are tighter than in the past, but arrangements for pay and allowances at camp or courses are much more intelligible than they have been.

An important paragraph deals with officers' training. In future every newly commissioned officer will be required to attend a week's course during his first year's service. On this course he will be taught the technique of running an A.C.F. detachment. Too often, in the past, it has been assumed that because a man had had a good Service career he was fully equipped to take over and run a platoon of Army cadets. The recognition by the Committee that this is a *non sequitur* is of significance.

Similar steps are to be taken to improve the selection, training, and efficiency of the adult instructors. These men have a valuable function to perform in the A.C.F. and, indeed, many of them are themselves former cadets serving with their old units. It is good to see that the former clumsy title of adult warrant officer is to go. Instead there will be sergeant-instructors and sergeant-major instructors, which are far better names.

Finally, the Committee wisely recommends the use of more civilian instructors, especially in subjects such as citizenship, training, and shooting. There is scope here for enlisting help from many experts who may not be able to join the A.C.F.

Training

The Committee naturally devoted much time in considering A.C.F. training in all its aspects. The present syllabus of training in the A.C.F. is based on Certificate "A." Cadets pass this in two parts. Part I is a test of basic individual training, Part II covers section leading. The report makes it clear that there is little wrong with the syllabus, but that the way it is implemented is far more open to criticism. The syllabus is indeed the skeleton; it must be brought to life and clothed with interesting and imaginative methods of instruction.

The A.C.F. is a truly voluntary organization. Cadets can leave at any time they like. It is widely agreed that more wastage is caused by dull and uninspired training than by any other cause. The converse is true also. Officers and instructors who can bring the Certificate "A" syllabus, with its fieldcraft, map-reading, and weapon training, to life will have good units and keen cadets.

It follows that the key to training, and indeed to an efficient A.C.F., is good instruction. This leads to the most important recommendation in the whole of the Amery Committee's report, namely the extablishment of a national training centre

and county training centres. It has taken many years for authority really to appreciate the quite fundamental truth that the technique of running a good cadet unit is not a natural skill given to all men, but that it is a subject which can be taught and learned. In recent years courses for A.C.F. officers have been run by the A.C.F. Association with the help of the Army. These have been made possible by the grant made by the King George VI Foundation. Already over 10 per cent of the serving A.C.F. officers have qualified on one of these courses. But the demand for leadership training far exceeds the supply of vacancies. The setting up of a national cadet training centre should vastly improve the performance of A.C.F. officers and instructors. It should do for the A.C.F. what Gilwell Park has done for the Boy Scout movement; that is, not only improve the calibre of instruction at the detachment level but also provide an excellent meeting ground for A.C.F. officers from all parts of the country where ideas can be developed and exchanged.

The training centre will be used by the Combined Cadet Force during the school holidays. In addition to courses for Cadet Force officers and instructors, the Amery Committee proposes that it will train selected Territorial Army officers whose duties involve them in liaison with the A.C.F. Leadership courses for senior cadets will also be organized. The centre will be available for Cadet Force conferences and will indeed become the 'power house' of the movement.

The establishment of county week-end training centres will also contribute much to the efficiency of the organization. Many counties, but not all, have these already. They will be most valuable for giving more advanced training to senior cadets, particularly those in town units, and should serve to develop campcraft which is so important.

The Committee pays tribute to the progress made in the A.C.F. with the Duke of Edinburgh's Award scheme. This is at present in its experimental stages and most of the boys' voluntary organizations are trying it out. The scheme, which sets out to encourage boys to develop their physical and moral potentialities, fits in well with the A.C.F. training syllabus. It has four main subjects, physical fitness, pursuits, public service, and expedition. It is likely that in a year or two this scheme will be much more widely known. It will spread both inside the experimenting organizations and outside them for two main reasons. First, it is a good conception in itself; secondly, it is under the direction of Brigadier Sir John Hunt. The A.C.F. appreciates the scheme and is taking it seriously.

One other important training recommendation has been put forward by the Amery Committee. This is the introduction of vehicle driving and maintenance for senior cadets. Comment is hardly needed. All boys want to learn to drive; the Army needs good drivers. The vehicles and instructors are available in the major Territorial Army centres. The cadets will be tested for their driving ability by civilians and will be expected to qualify for the ordinary driving licence.

Citizenship Training, Religion, and Sports

If the report of the Committee says little on these subjects, it is because they are the responsibility of the A.C.F. Association rather than the War Office. Their importance is underlined in the new Charter and is, of course, fundamental. There is no doubt that the prime requirement both of the Services and industry is for young men of sound character who are fit and potentially valuable in whatever walk of life they may follow. It is no accident that the Charter places first the need to develop a cadet's character and powers of leadership. The A.C.F. largely recruits

boys who leave school at 15 and go straight to work. If these boys had been more fortunate and had won a grammar school place, their school would have looked after their all-round training. Their leadership would have been developed by the prefect system, the school corps, and games ; their spiritual welfare would have been fostered in the chapel, and their physical well-being would have been catered for by regular changed exercise.

But for those boys, and they are perhaps 80 per cent of the whole, whose education ends at 15, their youth organization must try to fill in the gaps. That is why the A.C.F. places such store on the appointment of chaplains, the organization of games, and generally in character training. All these must add to the value of the finished product, both to himself and to those who later will employ him.

Conclusion

The implementation of the Amery Committee report will take time. It will certainly be two or three years before the results of its recommendations can be assessed. By then National Service will be, probably, on its last legs, the reorganization of the Army will be well developed, and, possibly, the current economic crises, which inevitably affect organizations such as the A.C.F., may be resolved. If things go well, a rejuvenated A.C.F. will celebrate its centenary in a mood of forward looking optimism rather than of sentimental hindsight.

But if this is to be achieved, a great deal of hard work will have to be done by the County Committees, the commandants and A.C.F. officers, and of course by those Regular and Territorial Army officers whose duties are to help and advise the A.C.F. They can be relied upon to do it. But their task will much easier if the same sympathetic understanding of the nature and problems of the A.C.F., which the Committee shows in its report, is regularly and consistently shown by the Army and the country at large. Voluntary organizations are extremely sensitive to public opinion, and the A.C.F. is no exception. If it is given encouragement and support it will pay valuable dividends to the nation in the future.

THE INDIAN MUTINY AND AFTER

By "HAFIZ"

THE storm which swept through Northern India a century ago was for decades afterwards referred to by many Indians as the *Shaitan ka Hawa*,[1] others called it the "Great Fear." It was not a popular insurrection but a mutiny of the Bengal Army that was put down by British *and* Indian troops. The Bombay and Madras armies were unaffected; practically all the princes, except in Oudh, stood firm; and most of the civilian population remained peaceful, remembering or hearing from their fathers of the terrible times before the coming of law and order. The rabble in some towns took advantage of the situation to murder and pillage but, on the other hand, many Europeans, men, women and children, owed their lives to the efforts of Indians, from princes to sweepers.

Lord Dalhousie, having just completed the unusually long period of eight years as Governor-General, had handed over to Lord Canning. He had forced through many reforms; railways and telegraphs had been introduced and the country appeared to be on the verge of a period of peaceful progress. Yet there were some who, able to see below the surface, believed that the Government, indifferent to warnings, was 'sitting on a powder magazine.'

THE ARMY IN INDIA, 1857

There were at that time three armies in India, namely, those of the Presidencies of Bengal, Madras, and Bombay, each of which had its own Commander-in-Chief, services, and arsenals. The Commander-in-Chief, Bengal, was however in command of all British troops in the East Indies and held an over-riding position in all military matters when necessary. The Bengal Army, with over 100 infantry battalions and three foot-artillery battalions, was by far the largest, and that of Bombay the smallest. Included in the above were various regular 'contingents' maintained by Indian States such as Hyderabad, Gwalior, and Nagpur, officered by British officers. The overall strength was about 300,000, with 5,000 British officers. The East India Company also maintained a number of British units, namely five brigades of horse artillery,[2] 12 foot-artillery battalions, and nine infantry battalions. In addition to the Company's Europeans there were, in 1857, four cavalry regiments and 22 infantry battalions of the British Army stationed in India, but neither artillery nor engineers. This force was less than normal, as one cavalry regiment and three infantry battalions had been sent to the Crimea and had not been replaced. In June, 1857, the actual strength was some 34,000 British troops.

The Bengal Presidency stretched from the Bay of Bengal to the Afghan frontier at Peshawar. It was divided into seven divisional commands each of which had under it several brigade areas. A large proportion of the European units was stationed in the Punjab, leaving very few in the other provinces. For instance, there were the 53rd Foot at Calcutta, the 10th Foot at Dinapore, 400 miles up the Ganges, the 32nd Foot at Lucknow, and the 3rd Battalion of the Company's Bengal Fusiliers at Agra.

The Bengal Army was mainly recruited in Oudh from Rajput and Brahmin yeomanry, though some Sikhs had recently been taken. There were also seven Gurkha battalions, though three of them were serving in Assam as local corps.

[1] The Devil's Wind.

[2] But each brigade had one Indian troop.

The Line, with the exception of the Gurkhas, was clothed in scarlet coatees, white trousers, cross-belts, and high shakos. The cavalry and artillery were dressed in the European fashion of the time.

One weakness was the age of the Indian officers who, rising from the ranks, were promoted entirely by seniority. Subahdars of 70 were not uncommon. The writer of a remarkable book on his life in the Army had 30 years' service on reaching the rank of jemadar, though he had already fought in four wars.[3] It was a bad system, which was not followed by the Bombay Army. Promotion of British officers in the Company's Army was also very slow; battalion commanders of 60 were common and there were brigadiers of 70 years of age. By 1857, the Army had been weakened by the escape of many of the ambitious and efficient younger officers into various irregular corps and posts in the political service of the new provinces.

It is necessary to digress here to give some account of a formation which played a big part in coming events. When, after the First Sikh War in 1846, the Punjab up to the River Sutlej was annexed, a special force was formed known as the Frontier Brigade, consisting of four newly raised regiments and a battery. These units, known as the 1st, 2nd, 3rd, and 4th Local Sikh Infantry, were recruited in the newly conquered territory largely from ex-soldiers of the Sikh Army but were not all Sikhs. In the same year the Corps of Guides was formed, consisting of both cavalry and infantry and composed of men of many types. After the Second Sikh War the whole Punjab was annexed and another new force was raised in 1849, known as the Transfrontier Brigade and made up of five regiments of Punjab cavalry, five battalions of Punjab infantry, and three batteries. The task of this new formation, which was under the control of the Punjab Government, was to watch the tribesmen and guard the new frontier from Hazara in the north to the border of Sinde in the south, a distance of 700 miles.

The new formation was soon in action against the predatory frontier tribes and quickly proved its value. In 1851, the four Sikh Regiments of the old Frontier Brigade, the Guides, and two Mountain batteries were added. Its title now became the Punjab Irregular Force—hence the nickname 'Piffers' by which it has since been known. The units were 'irregular,' by which term is meant they were not organized as the Bengal Line; each had a small cadre of British officers instead of 24 per battalion; each unit clothed itself, and in the case of the cavalry also mounted itself, on a lump sum received from Government. The rank and file were Sikhs, Dogras (hill Rajputs), Punjabi Mussulmans, Pathans, and some Gurkhas. The latter were withdrawn in 1858.[4]

The Causes of the Mutiny

Space does not allow of an examination of the origins of the outbreak in any detail, but the factors which appear to have played a part in causing the famous, spoilt Bengal Army to mutiny need to be mentioned. Those directly affecting the Army may be summarized as follows:—

(*a*) The mismanaged Afghan War of 1841–1842 had robbed the sepoys of their belief in the invincibility of the British, though this was to some extent offset by the successful Sikh Wars a few years later.

(*b*) The Government's decision to cease the payment of field allowance to units stationed in the Punjab, far from their homes, after the close of the Sikh

[3] *From Sepoy to Subahdar*, by Subahdar Seetaram (1873).

[4] They were formed into a unit which eventually became the Fifth (Royal) Gurkha Rifles (Frontier Force).

Wars. This caused much dissatisfaction and a number of units got together by letter and contact. These units were afterwards prominent in the Mutiny.

(*c*) The cartridges for the new Enfield rifle with which the Army was about to be rearmed were found to be greased with cow and pig fat. This the sepoys regarded as an affront to their religion and did not believe assurances that vegetable fat would be substituted.

(*d*) The reduction of the powers of commanding officers which took place during the Dalhousie regime.

Dalhousie's reforms were also thought to be one of the causes. These were the prohibition of female infanticide and *suttee*;[5] the law of succession; the re-assessment of land taxes; and finally, the annexation of Oudh in 1856 which, curiously enough, was disliked by the sepoys though it benefited their families.

It is probable that all these factors played a part in causing unrest. But there is one other which it is believed encouraged the Bengal Army to mutiny, and that was the disparity in strength between British and Indian troops, added to the rumour that the Russians had killed the rest of the British Army in the Crimea. There are some who hold that this disparity was the fundamental factor.

The Outbreak

In the early part of the year there was the mysterious episode of the *chappattis*.[6] These were passed by one village watchman to another with the order to make four more and pass them on to other watchmen with the message: "From the north to the south and from the east to the west." Nothing is known of the origin of this though it was understood to convey a warning of some impending occurrence, but whether of the Mutiny or some other event has never been discovered. Many who knew the country well remembered that similar portents had occasionally been noticed.

The first outbreak occurred near Calcutta, and two battalions were disbanded at the end of March. Early in May, there was trouble at Lucknow which was promptly dealt with. In both cases the sepoys had refused to accept cartridges on parade, though of the old pattern which had been in use for many years.

The hot weather and leave season had commenced, the storm appeared to have blown over, three European battalions had marched off to the hills, and officers of all units were going on leave. Everyone was settling down to the hot weather routine when, at Meerut, on Sunday, 10th May, a cavalry regiment and two battalions mutinied, murdered some of their officers and their families, and fled to Delhi before the British troops in the garrison could intercept them. Next day at Delhi, where there were no British troops, the Indian brigade in the station mutinied and the whole European population was murdered. Though no master mind was ever discovered, there is reason to believe that the uprising was timed to take place throughout the Bengal Presidency on 31st May, but that the outbreak at Meerut touched it off too soon. During the next week mutiny broke out in other cantonments east of Delhi and, by the beginning of June, Lucknow, Cawnpore, and Allahabad followed suit. Thus some 350 miles of the Grand Trunk road, running from Calcutta to Peshawar, was in the hands of the mutineers. It should be noted that the rivers Ganges and Jumna formed our main line of communication between

[5] The burning of widows on their husband's funeral pyre.

[6] Unleavened cakes of wholemeal wheat.

Calcutta and the north-west. The railway only extended 100 miles to the west of Calcutta.

Delhi and to a lesser extent Lucknow were the original focal points on which most of the mutineers moved. At the former city there lived the old puppet King of Delhi, a Government pensioner and descendant of the Moghul dynasty, the break-up of whose rule had led to the great expansion of British sovereignty during the early part of the century. In this feeble old man of 82, the ghost of the Moghul Empire, they found a figurehead.

There were many blunders, notably at Agra and Allahabad, but in the Punjab action was quick and firm. On 13th May, a Bengal cavalry regiment and three Bengal infantry battalions were disarmed at Lahore, the capital. In the Peshawar District all but two of the Bengal regiments were disarmed, in spite of the protests of their commanding officers, and 40 mutineers were summarily executed. This sign of firmness rallied the border chieftains, and recruits for Punjab units became plentiful. A ' moveable column ' was formed and moved down to the lower Punjab. Several ' Piffer ' units were sent off to join the Delhi Field Force.[7]

Delhi

The Commander-in-Chief, General Anson, who was at Simla, heard of the outbreak on 12th May and ordered all European troops in the hill stations to move to Ambala as the nucleus of a Delhi Field Force. He also ordered the formation of a light siege train. Owing to shortage of transport no move was made from Ambala until the 17th, and the force, consisting of two troops of horse artillery, the 9th Lancers, the 75th Foot, and the 1st and 2nd Bengal Fusiliers, was not concentrated at Karnal, on the Grand Trunk road 70 miles from Delhi, until 30th May. In the meantime General Anson had died of cholera and was succeeded by General Barnard, commanding the Ambala division.

On 27th May, Brigadier Wilson started from Meerut with two squadrons of the Carabiniers, six companies of the 60th Rifles, one horse and one field battery, some Indian Sappers and Miners, and a handful of loyal Indian cavalry. This small force fought successful actions against vastly superior numbers on 30th and 31st May. The two forces joined on the Grand Trunk road and, on 8th June, after driving the rebels out of an entrenched position at Badli-ka-Serai, occupied the famous Ridge overlooking Delhi. Here they were joined by the 2nd Gurkha Rifles and the light siege train. Thus began what is known as the siege of Delhi.

The walls of the city, seven miles in circumference with many bastions and provided with a ditch and glacis, had been strengthened in 1804 after the Maratha Wars and kept in repair. The British occupied the Ridge—a good defensive position —but could only direct an assault on a sixth of the perimeter, while the mutineers could communicate unhindered with the country outside by four of the seven gates. The mutineers in the city, early in June, consisted of some eight battalions, plus cavalry and artillery, and gradually reached a strength of about 30,000 as fresh corps of mutineers arrived from outstations.

The political importance of Delhi was fully realized and an attempt to take it by a *coup-de-main* was contemplated but abandoned. There were attacks on the Ridge on 11th, 12th, and 15th June, and a particularly heavy one on the 23rd, the centenary of the Battle of Plassey. Towards the end of the month reinforcements

[7] These units and the British units sent later wore ' khaki '.

began to arrive from the Punjab, including a wing of both the 8th and 61st Foot, the Guides,[8] 1st Punjab Infantry, and detachments of Punjab cavalry, though casualties largely neutralized the effect of the reinforcements. On 5th July, General Barnard died of cholera and was succeeded by Brigadier Wilson.

Wilson improved the organization of the force but would not agree to the risk of an assault. He explained the position to Sir John Lawrence, Chief Commissioner of the Punjab, who, realizing that no help could be expected from the south-east, decided on the bold policy of almost denuding the Punjab of troops. On 21st July, he decided that the Moveable Column, under John Nicholson, should start at once and reach Delhi about 15th August. Other troops would follow and arrive about the end of the month. In the meantime, every effort was to be made to equip and transport a heavy siege train from Ferozepore arsenal.[9] So the force on the Ridge, constantly attacked, hung on grimly throughout the hot weather. Supplies were plentiful, the country to the north and west being peaceful; casualties were evacuated to the hill stations. Morale remained high.

The Moveable Column arrived at Delhi on 14th August. On the 25th, Nicholson defeated a large enemy force sent out to threaten the road from Karnal and to intercept the siege train. The latter arrived on 4th September, by which time most of the additional troops from the Punjab had marched in and many convalescents had returned from the hill stations. But no more reinforcements could be expected; it was 'now or never!'

Siege batteries were deployed to fire on selected points on a frontage of about a mile from the Water Bastion to the Kashmir Gate. A section of one of these batteries was commanded by Lieutenant Frederick Roberts of the Bengal Horse Artillery. Fire was opened on 11th September, a successful assault was made on the 14th, but it took seven days of heavy fighting to clear the city. The last act was the storming of the Royal Palace by the 60th Rifles and 4th Punjab Infantry. Casualties had been heavy, including John Nicholson who, wounded on the 14th, died nine days later. But the moral effect of the capture of the ancient capital of the Moghul Empire and the person of its last representative was very great indeed.[10]

On 24th September a column of 750 British and 1,900 Punjabis left the city to pursue the enemy and reach Cawnpore. Roberts acted as D.A.Q.M.G. to this column which consisted of two troops of horse artillery, the 9th Lancers, the 8th and 75th Foot, both very weak, a composite Punjab cavalry regiment, a detachment of Hodson's Horse, and the 2nd and 4th Punjab Infantry. The force reached Agra, 160 miles from Delhi, on 11th October, where they fought a large body of mutineers on arrival and, after a halt of three days, moved on towards Cawnpore, which was reached on 26th October.

[8] The following 'Piffer' units marching to Delhi covered notable mileage in the height of the hot weather. The Guides 586 miles in 26 days, the 4th Sikhs 530 miles in 30 days, the 4th Punjab Infantry 537 miles in 31 days, and the 2nd Punjab Infantry 192 miles in eight marches.

[9] *Moveable Column.*—One battery, 52nd Foot, 3rd Gurkha Rifles, Multani Horse. *Additional troops.*—A wing of both the 8th and 61st Foot, 2nd and 4th Punjab Infantry, 4th Sikhs, a wing of the Baluch Regiment (a Bombay unit), and a Kashmir contingent.

[10] The units taking part were: *Covering Force,* 60th Rifles. *No. 1 Column,* 75th Foot, 1st Bengal Fusiliers, 2nd Punjab Infantry. *No. 2 Column,* 8th Foot, 2nd Bengal Fusiliers, 4th Sikhs. *No. 3 Column,* 52nd Foot, 3rd Gurkha Rifles, 1st Punjab Infantry. *No. 4 Column,* 2nd Gurkha Rifles, Guides Infantry, Kashmir Contingent. *No. 5 Column (Reserve),* 61st Foot, 4th Punjab Infantry, Baluch Regiment. Each column had a party of gunners and sappers. Total about 1,600 Europeans and 3,900 Indians and Gurkhas.

Lucknow

Sir Henry Lawrence, Chief Commissioner of Oudh and one of those who had warned the Government, began to make preparations early in May by fortifying the Residency and collecting and storing supplies in it. All through May he kept Lucknow quiet but, on the evening of 30th May, mutiny broke out among the garrison, except the 13th Bengal Infantry and parties of the 48th and 71st, who joined the British troops. At this point all the rest of the troops in Oudh mutinied as well as those at Cawnpore where, after a gallant defence by a few troops, all the survivors except two or three, but including some 250 women and children, were murdered.[11]

The walled city of Lucknow, 40 miles north of the Ganges at Cawnpore, attracted all the mutineers in Oudh and the neighbouring provinces. It was, however, not until 30th June, that Lawrence was forced to abandon the cantonment and move the garrison into the Residency following a disastrous and badly handled attack on the mutineers at Chinhat. A magnificent defence was put up by the garrison, particularly by the 32nd Foot and the loyal sepoys. It was prolonged until the end of September by which time casualties from enemy fire and disease made it difficult even to man the defences. Henry Lawrence died of wounds on 4th July.[12]

Early in June a relieving force had reached Allahabad, some 250 miles east of Lucknow, and reinforcements were expected as troops returned from the war in Persia. On 30th June, a small force was sent on to Cawnpore, and on the same day General Havelock arrived from Persia, with two British battalions following. Reaching Cawnpore on 7th July, he determined to try to relieve Lucknow. After some delay in crossing the Ganges, the advance commenced on the 29th. After providing a detachment to hold Cawnpore, his force consisted of only 1,500 with six guns. The units included the 64th and 84th Foot, 78th Highlanders, 1st Madras Fusiliers, and the Ferozepore Regiment (Sikhs). But though several successful actions were fought, the column was withdrawn to Cawnpore, utterly exhausted, to face bands of mutineers attempting to close in from the west.

On 15th September, General Outram arrived from Persia with the appointments of Chief Commissioner, Oudh, and Commander of the force to relieve Lucknow. He however, allowed Havelock to remain in command of the troops. The original force, now recovered from its exertions, had been augmented by the 5th Fusiliers and 90th Light Infantry to a strength of 3,180 and two batteries. A start was made on 21st September and the Alambagh, a large walled enclosure a mile and a half south-east of the city, was captured on the 23rd. The next day was spent in reconnaissance and on 25th September the advance began again. After heavy fighting the column broke through from the east and entered the perimeter on the 27th. It was found impossible to evacuate the garrison and non-combatants owing to casualties and shortage of transport. Outram decided to remain until the place could be properly relieved and began to increase the perimeter.

The garrison of Lucknow had been saved, Delhi had been captured, and reinforcements were arriving at Calcutta. Sir Colin Campbell, the new Commander-

[11] It is believed that the sepoys refused to murder the women and children and that this was done by bazaar butchers.

[12] The original garrison consisted of the 32nd Foot (now 1st Battalion, Duke of Cornwall's Light Infantry), 50 all ranks 84th Foot, a detachment of Bengal European artillery, unattached officers and civilians capable of bearing arms, 13th Bengal Infantry, and detachments of the 48th and 71st. Total, 1,008 Europeans and 712 Indians. There were also 1,280 non-combatants, including 600 women and children.

in-Chief, was busily organizing the maintenance of the army now being formed and in clearing the lines of communication. At the end of October he decided to relieve Lucknow and reached Cawnpore on 3rd November, just after the 53rd Foot, 93rd Highlanders, and the column from Delhi arrived. Finally, the heavy guns of Captain Peel's Naval 'Brigade' marched in. After some opposition the relieving force assembled at the Alambagh on 14th November, and on the 16th, moving by a wider *détour* than the previous 'relief', encountered less opposition, except at the Sikandrabagh, a walled enclosure 120 yards square. This was stormed by the 93rd and 4th Punjab Infantry after an artillery bombardment; some 1,800 rebel sepoys were killed in this place. Meanwhile, the garrison was also advancing and the forces met on 17th November.

On 19th November a long train of sick, wounded, and non-combatants moved out to be eventually evacuated down the Ganges from Cawnpore. Havelock, worn out by the heat and sickness, died a few days after the relief. Sir Colin refused to attack the city and, leaving a force of 4,000 in the Alambagh under Outram, withdrew the rest to Cawnpore where he was just in time to defeat a large body of rebels coming from the west. Here he waited while reinforcements gathered for the re-conquest of Oudh, where the main enemy concentration was at Lucknow and numbered over 100,000. At this time Sir Hugh Rose was moving up from Central India.

By February, 1858, an army of 31,000 was assembled, organized into a cavalry division and four infantry divisions, with 134 guns and mortars.[13] The first objective was Lucknow, by then heavily fortified. Fighting went on from 15th March until the city was finally captured on the 21st. Operations continued throughout 1858 in Oudh, Rohilkhand, and Central India. The smouldering embers were not stamped out until the middle of 1859.

We remember with sorrow the sufferings of our people and feel pride in their bravery during this great calamity. But we must never forget the gallant Bengal sepoys who, 'true to their salt,' provided over 50 per cent of the original garrison of the Residency at Lucknow. Nor must we ever forget the regiments from the Punjab—Sikhs, Punjabi Mussulmans, Dogras, and Pathans, and last but not least the Gurkhas, all of whom fought so bravely and skilfully at Delhi, Lucknow, and elsewhere.

The Imperial Indian Army

On 1st November, 1858, the Crown assumed control of India and with this came the proclamation of an amnesty. As the fighting died away all traces of the mutiny quickly disappeared and normal administration was restored. There remained the task of reconstructing the Bengal Army.

All the Regular cavalry units were replaced by new irregular corps, such as Hodson's Horse and others who had not mutinied. In addition to the Sikh and Gurkha units, only a few of the infantry battalions remained in existence, and though two new corps were formed from the survivors of the loyal sepoys of Lucknow and other faithful remnants, 51 battalions disappeared. All the artillery and irregular infantry, except the 'Piffers' and their batteries, were removed from the Army List and the Company's European units were taken on the British Establishment.

The new Army was to be largely recruited in the Punjab, with a corresponding reduction in the number of Brahmins and Rajputs, especially from Oudh. The

[13] Included were the 2nd Punjab Cavalry with detachments of the 1st and 5th, Hodson's Horse, the Ferozepore Regiment, the 2nd and 4th Punjab Infantry, and a Gurkha Brigade.

tendency to draw on the Punjab was intensified after the 2nd Afghan War, and the number of Gurkha battalions was increased. All units were to be organized on the 'irregular' system of the 'Piffers.' This system was eventually extended to the Armies of Madras and Bombay, though the Madras cavalry remained on a Regular basis. Recruits were carefully selected from the large number anxious to join, companies and squadrons, and in some cases complete units, being composed of men of the same clan or race and religion. Finally, the powers of commanding officers were fully restored.

In 1886 the 'Piffers' came under the Commander-in-Chief and, in 1895, the system of Presidency armies was abolished and the Indian Army became one. In 1903, all units were numbered on one list, a number of the old Madras battalions were converted to Punjabis, and some of the former Bombay units were allowed to recruit Punjabi Mussulmans. The 'Piffer' units were numbered in the general list but still retained the title "Frontier Force" in addition to their new numbers and designations.

Prior to 1914, Indian Army units and formations had fought in Abyssinia, Afghanistan, Burma, China, Egypt, and East Africa, as well as on the North-West Frontier. In 1914–1918 its formations fought splendidly in France, Gallipoli, Egypt, Palestine, Iraq, Persia, and East Africa. In 1919 came the 3rd Afghan War followed by disturbances on the Frontier, notably in Waziristan.

In the 1920's steps were taken to remedy faults and weaknesses disclosed in the administrative services during the late war, and Government took over the clothing and mounting of all units. Among other reforms was the grouping of cavalry regiments and infantry battalions for the training of recruits in peace and draft-finding in war, one battalion or regiment in each group being located at a fixed centre. In the infantry, except the Gurkhas, groups were converted into regiments of from three to five battalions and a training unit of similar class composition. This involved the abolition of the old numbers and a new set of numbers by regiments, but battalions kept their special titles as far as possible. During this period the grant of King's Commissions to Indians began, partly as a recognition of the gallantry and loyalty of the Indian Army in the War of 1914–1918.

In the War of 1939–1945, the Indian Army fought in Italy, North Africa, Abyssinia, Syria, Iraq, Burma, Malaya, and Hong Kong. Their outstanding service is so well known that it will suffice to point out that during this war the Indian Army was the largest army of volunteers ever known and probably the best ever recruited in Asia.

This paper commenced with the coming of the *Shaitan ka Hawa ;* it ends at another time of trial—the partition of India in 1947 when, but for the loyalty and discipline of the Army, the two countries of India and Pakistan could not have been brought into being. "Never, I believe, has the loyalty and soldierly spirit of any army been subjected to such a strain and to such determined pressure to subvert it and to destroy its pride in itself. And never has any country in history depended more on its army to see it through its darkest and most confused days than has India depended on the Indian Army . . . The traditional spirit of impartiality, the old spirit of pride in their Regiment, held them together . . . I believe that this is the greatest achievement of the British in India."[14]

[14] *While Memory Serves*, General Sir F. Tuker.

LETTERS FROM THE CRIMEA—IV

By Assistant-Surgeon Arthur Henry Taylor

These letters, written to his parents by Assistant-Surgeon Arthur Henry Taylor from the Crimea between October, 1854, and March, 1856, are in the possession of his great-niece, Miss Mary G. Walker, and with her permission are now published for the first time.—

Editor.

Royal Artillery Left Siege Train. 10th June, 1855

We opened our third bombardment on the 6th of this month and on the 7th we carried by assault " the quaries," and the French the " Mamelon " by storm! It was a glorious sight and the fire was one of the most wonderful spectacles ever seen. . . .

I have been in the trenches every second 12 hours, and besides have had Camp duty and general superintendence of 11,050 men! We have gained the key to Sebastopol, and a short time must see us *in Sebastopol*!! . . . All goes well. If the next attack fails I shall go home on duty! Yesterday Lord Raglan came round the Hospital and amongst the other patients I had an amateur, one of the Sanitary Commission, in Hospital, who was knocked off his horse by a 42-pounder shot, he was not much hurt. Dr. Hall kindly took the opportunity of mentioning me to Lord Raglan who said " he would remember me."

Royal Artillery Siege Train. 29th June, 1855

I am ill in bed in my own Hospital. This is the first time that I have been able to sit up in bed for about 10 days. . . . I have, thank God, just escaped a very severe attack of choleraic diarrhoea and fever of a low character. The Army, you will be sorry to hear, is very unhealthy and we have lost a great many men and some generals and other officers. This great mortality has been caused, I fear, by our great experience in this dreadful warm climate during the last bombardment and the subsequent expression of feeling amongst the men and officers on our repulse. However, next time we shall do better. Lord Raglan died of choleraic diarrhoea this morning or last night. General Simpson (Chief of the Staff) holds temporary command of the Army. . . .

Though very weak, I am out of danger, and as I am yet unfit to resume my duties, I am going down to Constantinople, for the voyage, on 14 days leave of absence

Boukdere, Bosphorus. 11th July, 1855

I have only just got settled here and have only time to tell you that I am very well though a little weak, but thanks to the kindness of Mr. Adams, who has given me a nice room here and the use of a horse till the end of the month when my leave expires, I am sure I shall get strong and well fit for another turn in the Crimea. Mr. Adams is now Commissary-General of the Turkish Contingent. . . . By his asking me here I avoid going into Hospital at Scutari, which at best is far from being a healthy place. . . . What between the French in Constantinople, the English in Scutari, and the ships of war in the Bosphorus, Constantinople can hardly be called a Turkish possession ! . . .

Royal Artillery Left Siege Train. 9th August, 1855

I have returned to my old Camp and for the present am to do duty there, but I have applied to be appointed to one of the Field Batteries, or mounted Artillery. . . . I am no longer in charge of the Left Attack, as during my illness the strength of the

Attack has so increased that they have deemed it a proper charge for a full Surgeon, and have superseded me by Surgeon Fogo, R.A. An additional reason for my desiring to leave this Camp is that I fear if left here next Winter and not able to get home, for it is very difficult to get away (except when almost dying), that I should not be able for the hard work of another Winter, as I am, though well, far from as strong as I was when I first came here. The heat of this place is so great, particularly in a single tent, that I can scarcely move about, it is so overpowering. . . .

The officers here are all anxious for me to stay with them, and at their request I think I shall stay with them till after the next bombardment, which it is rumoured will take place shortly. . . . Little is doing, advances are being daily and hourly made closer and closer to the town and new batteries are being built. We fire little, and the Russians about the same; for the last few days the enemy have taken it into their heads to throw shell, shot and shell filled with lead, into and about our Camp. Whilst about half through this letter I heard one coming whistling lazily through the air, and just got out of my tent to see it roll into Camp looking quite exhausted with its long journey! They have not hurt anyone yet as they almost always can be seen or heard and the men get out of the way of them!

ROYAL ARTILLERY LEFT SIEGE TRAIN. 10th AUGUST, 1855

We are very dull in Camp at present, except that the Russians are throwing shot and shell about the different Camps. Three or four shot passed over or about my tent and the Hospital the night before last. This is becoming unpleasant as one cannot sleep very well with visitors about. The shot fell, unfortunately, into a crowded tent of sleeping Artillerymen and wounded one poor fellow so severely that he died after amputation at the hip-joint in about two hours. This is the first accident we have had with them, as the range is so great (about three miles! !) that there can be no accuracy in their fire, and they are only sent at random.

LEFT SIEGE TRAIN. 16th AUGUST, 1855

The Russians today met with a great defeat. A battle of some hours' duration was fought on the banks of the Tchernaya River. It is now about 10.30 p.m. We march off to commence the bombardment. I am tolerably well, not so strong as I could wish, but in pretty good spirits. The heat of late has been so terrible that it weakens me very much. The thermometer was 98 in the *shade* a few days ago and about 120 in the full heat of the sun.

LEFT SIEGE TRAIN. 4th SEPTEMBER, 1855

I have been prevented writing by the last two mails by having on both occasions been " turned out " suddenly in the middle of the night in expectation of an attack and spending the day in the broiling hot trenches before Sebastopol, the dullness of the day being only enlivened now and then by having to scamper round a gun-carriage or traverse or some other cover from the odd shell or shot which the enemy now and then favour us with, a compliment which we are not slow in returning, and thus the days are spent in the intervals between the grand bombardments, the amusement being varied by the whizz or " birr " of half a dozen bullets passing safely over our heads as their sharpshooters bang away at any spot where they see, or imagine they see, a head over the parapet. . . .

Since I last wrote, the French met with a dreadful mishap in the Mamelon, one of their great magazines containing, it is said, 12 tons of gunpowder, exploded and killed and wounded about 800 men. The explosion was so great that it wakened

everyone in Camp and in my Hospital two miles from the Mamelon. The shock was so great that it knocked down the medicine bottles in the surgery. . . .

I can get few things to eat which do not disagree with me, however I am well and if not so hard worked I should be much better. The number of medical men in the Crimea, what with death, sickness, and resignation, has greatly diminished with the last three months; of 300 medical officers then in the Crimea, there are only now 200 doing duty! . . . I am the only officer at present with the company and I often tell Captain Dickson that if he gets wounded in the batteries that I shall take command of the company and win a majority for one or other of us by destroying the bridge of boats! ! . . . But he always tells me that I could more effectively " cut off their retreat " if I could get the enemy into Hospital. He is one of my professional admirers and says if he ever loses a leg no-one shall touch him but me.

LEFT SIEGE TRAIN. 10th SEPTEMBER, 1855

At length Sebastopol has fallen. The French and English attacked the place on Saturday, the 8th September, in great force, the former successfully on one point and unsuccessfully on another. All that night and the next day immense explosions took place and the whole town was in flames. The enemy had retreated to their Camp on the north side and, having laid slow matches to the mines and magazines, fled across their bridge of boats, which they have lately built, and left the town on fire. The next morning none but wounded Russians were in the town and every now and then some most awful explosion was to be heard as mine after mine exploded.

As soon as we could see through the smoke we found that all their line-of-battle ships had been sunk and that their bridge was gone and all their little steamboats hauled over to the north side. Today we heard several explosions on the north side and seen some fires burning as if they were evacuating that side also. . . .

On the 9th no English were allowed in the town, but the place was given up to be plundered by the French. Today I have been all through the town down to the water's edge and as far in every other direction as the flames and the dread of explosions would allow me. . . . I have a " Kettle Drum"[1] belonging to the " Russian Naval Brigade " and a Russian flag of some sort. . . . I also visited their Hospital and never saw I such a scene of intense misery. Dead, dying, and wounded lay without attendance, shrieking and calling for drink, squalid, starved, dirty, and miserable in the extreme. None of the doctors (shame on them) remained behind with them. I gave my brandy and water to them, though I wanted it badly myself, as far as it went, and reported their state to headquarters. . . .

LEFT SIEGE TRAIN. 17th SEPTEMBER, 1855

The enemy still retain their position on the north side of the harbour and are encamped there apparently in considerable force, though nothing like the same force that we have. We are sinking shafts and mining all the grand docks and Government buildings, in order to blow them up so as completely to destroy Sebastopol. I have ridden all over Sebastopol several times since I last wrote, and you can form no idea at home of the dreadful state of ruin the town has been reduced to by our shot and shell, which have passed over their batteries and gone into the town, shattering houses and tumbling down walls and cutting trees across in every direction. There cannot have been a safe spot during the last two bombardments in the whole town, and their loss during the siege must have been very dreadful indeed. . . .

[1] Still in existence.

In a return called for today from Headquarters of the Services of the Medical Officers of the Royal Artillery my name was sent in as having seen more service than others here. I was down in the return for the Battle of Inkermann, the successful repulse of the sortie on our trenches of the 25th October, 1854, and *every* bombardment (the only one who could say so), and the fall of Sebastopol, with a total of 81 *days* actual service under fire in the trenches, the highest number having been put down by anyone else having been 50 days in the trenches. I am told that my name has again been mentioned in Despatches, both by Dr. Hall and our General, General Dacres, if so I shall be greatly pleased, and have little doubt but that I shall get the Order of Merit, which will be a great honour. However, I may be mistaken and am only building castles in the air ! . . .

LEFT SIEGE TRAIN. 18th SEPTEMBER, 1855

Yesterday afternoon I rode into Sebastopol to see Captain Dickson, the captain of my company, who is now living in Sebastopol as one of the British Commissioners to superintend the division of stores. He had just found twelve beautiful brass field-guns in the sea, the enemy having thrown them over a cliff into the water on leaving ; fortunately the water is shallow, and we shall get them again. . . .

The weather is becoming very cold indeed, so much so that fur caps and thick gloves are being turned out of the bottom of trunks with delight ; whilst I write I have round my neck a great woollen comforter, and on me a thick cloth waistcoat and my old winter pea-jacket, and yet I feel chilly. However, it is fine healthy weather and just the time for marching.

"A" FIELD BATTERY. BALAKLAVA PLAIN. 10th OCTOBER, 1855

I have changed my Camp, and in a great measure the nature and extent of my duties. The Siege Train is being broken up, nothing more is to be done in the direction of Sebastopol ; the place is destroyed and the Army has, as it were, changed its front ; our line of operations, offensive or defensive, is altogether in the direction of Tchernaya and the long line of country lying between the valley of Inkermann and the village of Baidas and the French advanced posts at Fovas Pass, a line of about five-and-twenty or thirty miles. . . .

An order has just arrived for us to march in a day or two to take up our Winter quarters on the heights in advance of Kamara. . . . It will be a wild exposed place in the Winter, but I have no doubt but that we shall be able to make ourselves nice little mud huts covered with branches of trees and tolerably comfortable. . . .

Any Battery is always considered a much better thing than Siege Train as there is always less to do, it is a more permanent appointment, and the allowance of horses is better. I have now two horses free of all expense, one called my charger, another rated as pack pony, and a Hospital cart like a strong Irish jaunting-car to carry Hospital supplies and sick and wounded, and is entirely at my disposal. Our Colonel's name, strange to say, is Arthur Taylor. . . he is about six-foot three inches tall!! His adjutant captain is about six-foot four inches tall! The three of us are about as tall a trio as you could well find amongst any officers in the Army serving together! He often laughs at me on account of my height when I come up to him in the morning. . . .

I have only ten or twelve sick to attend to daily ; the Battery consists of about 150 men, so that after my hard work and many other hardships with the Siege Train this seems to me quite a pleasant change. . . .

On last Sunday I made a long excursion on horseback to the village of Baidar, a small Tartar town about 18 miles from our Camp. There were three officers besides myself, we each brought some bread and cold meat with us, and in Baidar bought some grapes(!) from the Tartars, some herrings (salt), and some porter! We rode back after examining this curious little place; the view of it in *The Illustrated News* is rather good but not extensive enough to give you a correct idea of the place. In the view, the house to the right with the horses and men in front of it is the French canteen. We rode back to some nice pasturage where we unsaddled our horses, sat down under the shade of some trees near us, and, having lighted a fire, made a regular bivouac of it for two or three hours, and warming our meat and cooking our herrings, made a most hearty meal after our delightful ride through one of the most beautiful places I have ever seen; hills covered with trees and brushwood and terminating at great and precipitous heights in rocks and clouds, and below, Tartar villages and fields with their hurdle-fences, through or over which, as the case may be, we gallantly rode according to the hunting and leaping capacities of our several horses. I happened to be pretty well mounted, as well as another of our party, and cleared many a high fence in our delight at being again in open country in a manner that must have astonished many an honest Tartar with all their knowledge of horsemanship. It was one of the happiest days I have ever spent since I came to this wretched war-devastated country. At our new station I have no doubt but that we shall have to put up with many a little privation or even hardship on account of the distance which we shall be from Balaklava, but no-one seems to think of that.

"A" Field Battery. Balaklava Plain. 12th October, 1855

Yesterday our orders to march to Kamara were counter-ordered, and for the present the Highland Division are uncertain as to their remaining where they are. . . . I suppose our Winter quarters will not be settled till Winter has actually set in. . . . The weather seems on the change, as the nights are getting cold, and the days uncertain, sometimes hot, then raining and perhaps stormy, a state that is rather annoying in a thin tent perched on a mound in a plain, as mine is.

"A" Battery, Royal Artillery. Kamara. 19th October, 1855

I must tell you about our new Camp which is about four or five miles from Balaklava and to the southward of that place, and on the height beyond the Russian village of Kamara which the enemy occupied last Winter and up to the first month of Summer. It is a wild place, quite a mountain country, and commanding a splendid view of the valley and heights of the Inkermann, the valley of the Tchernaya, and the Mackenzie Heights. In fact we have grand views of the whole Russian position. . . .

"A" Battery, Royal Artillery. 9th November, 1855

All day yesterday I have been receiving the congratulations of my comrades on my name appearing in General Despatches, and I suppose you have all seen it at home. . . .

We had a grand review of all the Field Batteries in the Crimea a few days since by the Commander-in-Chief, Sir W. Codrington. We turned out in heavy marching order, without tents, and with two days forage. It was one of the most magnificent sights that I ever beheld. We were a little Army in ourselves. The whole plain of Balaklava was covered with Artillery. The field-guns numbered 74 or 76 in all! I suppose such a spectacle has never been witnessed in England, and had the Russians

seen us, I imagine they would not like to visit Balaklava again. The General was highly delighted, and it is said that he is about to publish a general order expressing his gratification.

I turned out mounted on my best charger, a splendid horse about 17 hands high, he was bought by the Government for the Battery after the charge of Balaklava, where he was wounded and his master killed on him. He cost £60 and when tried in the Battery would not stand fire well and so he was given me as an officer's charger. I had to march past twice, saluting the Commander-in-Chief each time. I had never done so and I was rather nervous. The Artillery are, I believe, the only Regiment in which the Doctor marches past, however, I believe I got through the affair creditably, thanks in some measure to my horse who plunged and kicked just in front of the General so as almost to make me fear I should be unseated, and thus any mistake in saluting was not taken notice of, as everyone thought I would have been thrown. I am told my horsemanship attracted notice.

We had a dreadful casualty in Camp a few days since; in the French and English Siege Train Park there was a most frightful explosion, throwing shells far around and dealing death and destruction to all around. The two Parks were full of all sorts of combustibles and engines of destruction, and all blew up together. The loss has been very great, nearly as much as a general action, viz., 1,400 men, English and French!! It was well I had left the Siege Train as I might have come in for some severe wounds, as the Doctor's hut as well as all the huts about were completely destroyed by the explosion. I rode up immediately after the accident as hard as I could with my instruments in my pockets, to see if I could be of any use, and found that about 56 men of the Siege Train were killed or wounded. The young officer named Dawson lost his leg whilst gallantly leading a party of men into the fire to carry away the loaded shell which were scattering death about. Poor fellow, he had only just joined. Immediately after the explosion the Russians appeared in great numbers on the Inkermann Height under arms, and the Army was turned out the following morning at 4 o'clock, expecting an attack, however, they did not come.

The weather now is most delightful, cold and dry, but without any high wind. This November is the greatest possible contrast to last year's. I shall never forget the wretchedness of this time last year. I forgot to say in speaking of the explosion in Camp that the French were the greatest sufferers, we only lost in all about 200 men killed and wounded. A doctor of the Rifles has been nearly killed, he received a dreadful wound on the head and his life is in great danger. The French suffered so severely in consequence of having one of their large Field Hospitals or "Ambulances" close to the scene of the explosion, and scarcely a man escaped. I volunteered my professional services to the French last night, which they gladly availed themselves of. On leaving, a French General came and, bowing and escorting me to my horse, asked me my name and regiment and said he hoped we should meet again. . . .

The Sardinians are rapidly completing their railway to Kamara, terminating near our Camp, which will be useful to us all in the Winter, as there is no other road here, and it will be almost impossible to get to Balaklava when Winter sets in, the ground between this and that place is so soft and marshy. . . . I intend to apply for leave to go home in charge of invalids in January or at the end of December.

"A" Field Battery, Royal Artillery, Kamara. 4th January, 1856

We gave a large dinner party on Christmas Day to several of our Regiment and some officers of the Highland Division, amongst them Colonel Taylor of the

79th Regiment and several others. We had a very pleasant time of it for Winter and a wonderful contrast to last year's and its many hardships and dangers. . . .

I have sent in my application to go home in charge of the Siege Train Companies about to go to England, but have received no answer as yet. General Dacres came to our Camp on General Inspection a few days ago and I asked him to assist me in getting home as fast as I could as I thought I had some claim to go home. He laughed and, turning to my captain and some of his staff, said, " I don't think we can afford to lose our fighting doctor." However, he afterwards said he would do what he could.

" A " Battery, Royal Artillery, Kamara. 20th January, 1856

I have not received any official information respecting my getting home. . . . It is certainly a most beautiful country, and now that the Tartars have come back to their houses it looks quite homely and pleasant. The weather of late has been very cold and we have had a fall of snow, but the thaw set in yesterday. The Battery turns out once or twice a week in heavy marching order and I have to go out with them ; our horses and men are in perfect order and would do credit to the best management in stables at home. . . .

Valletta, Malta. Steamship " Imperatrix," 27th February, 1856

As you may see I am so far on my way home with the Siege Train. I got my orders at 11 a.m. on the 16th instant and sailed on the 17th at noon. We expect to be in England in about 11 or 12 days, and I shall immediately apply for leave of absence and have no doubt I shall get three months leave at once.

We are now at anchor in Valletta Harbour but as I am the medical officer on duty I cannot go ashore though I hope to be relieved before evening. The moment we came into Valletta harbour the garrison ran to the walls of the forts and cheered us most heartily. We are the first body of troops to return from the War and expect a very stirring reception at Woolwich when we land. It will rather astonish the martinets there to see our motley uniforms, there is scarcely one officer dressed the same as another. There are about 950 men and 27 officers on board besides the crew but though many of them are delicate there is no sickness to signify on board.

Woolwich. 14th March, 1856

I arrived here on the afternoon of yesterday. We were all received with great honours. The Queen inspected us and made a great deal of us all. We marched past just in the strange guise in which we arrived in from the Crimea, and then marched on to the Common, where we formed three sides of a square, opened ranks, and the Queen went slowly round the ranks, stopping occasionally to speak to some of the men and officers. It appears that no troops were ever received more gloriously than we were. In the evening we had a grand dinner at our splendid Mess. It was decidedly the finest affair I have ever seen. I was not one of the least honoured of my comrades and was presented to many of the great and famous officers of the Regiment by my friend Colonel Henry, who lost his arm in the trenches. It was a proud day for all of us and even the sick and weakly felt that they had well wasted their health and strength to be thus gloriously received by their Country and their Queen. It was without doubt the proudest day of my life.

(Concluded)

BLAKE AND DE RUYTER

By COMMANDER W. B. ROWBOTHAM, R.N. (Retd.)

THE year 1957 is noteworthy for the centenaries of several important persons and events. Here we are concerned with two famous seamen, one an Englishman and the other a Dutchman, who besides meeting in battle on the high seas had many other naval exploits to their credit. These were Robert Blake and Michiel Adriaenszoon de Ruyter. In the space of a short article, however, it is not possible to give more than a very brief outline of their respective careers or to assess their characters in detail.[1]

BLAKE

Robert Blake was born in August, 1599, at Bridgwater, Somerset, the eldest of a family of 12 children. His studies at Wadham College, Oxford, were cut short by the death of his father, after which he had to maintain the family. This undoubtedly helped to mould his character and enabled him later to take decisions and to deal more readily with men and affairs. Little is known about his earlier years, except that for a few years he lived in Schiedam, Holland, and his first appearance on the national scene was when he was elected member for Bridgwater in the Short Parliament of 1640.

When the Civil War broke out in 1642 Blake joined the Parliamentary forces. He played a prominent part at the siege of Bristol and in 1644 successfully defended Lyme against Prince Maurice. His defence of Taunton against the Royalist forces was equally brilliant and he terminated his career as a soldier by the capture of Dunster Castle in 1646. Two years of obscurity followed before he was brought forward again.

For various reasons the captains of several Parliamentary ships had gone over to the Royalists and joined Prince Rupert, who early in 1649 made his base at Kinsale and began to raid English shipping. The chief commands at sea at that time were held by soldiers, who did not necessarily have any previous sea experience. Three—Edward Popham, Richard Deane, and Blake—were therefore appointed Generals-at-Sea to counter Rupert's activities, and thus Blake started on that naval career for which he is so justly famous. He was then 50 years of age. It may be mentioned here that the term 'Admiral' denoted the post and not the rank, as it subsequently became.

In October, Rupert escaped from Kinsale and went to Lisbon, whence he continued his depredations with the connivance of the King of Portugal. There he was eventually found by Blake who, having denounced him as a pirate, was not deterred by any niceties of Portuguese neutrality from attacking and capturing several ships of the Brazil plate fleet. Two partial actions with Rupert took place during 1650, and eventually the raider, who had outstayed his welcome at Lisbon, departed for the Mediterranean on 12th October. Blake pursued him, but while he was considering how he could best bring him to action, the matter was settled by a gale that wrecked four out of the six Royalist ships. Rupert took refuge at Toulon. William Penn was then sent out to relieve Blake, who returned home to receive the thanks of Parliament and a grant of £1,000.

[1] Further information will be found in *The Letters of Robert Blake* (Navy Records Society, Vol. LXXVI), the several N.R.S. volumes relating to the *First Dutch War*, and *Nine Vanguards* (Lieutenant-Commander P. K. Kemp, R.N.).

Blake's next task was the expulsion of the Royalists from the Scilly Islands, which was effected on 23rd May, 1651. He was then appointed to command the land forces in the West Country to meet the threat of a fresh Royalist advance in that direction, but on the death of Popham he was recalled to sea service, and the year ended with the ejection of the Royalists from Jersey, their last stronghold on English soil.

For some time past commercial rivalry with the Dutch had been increasing, and it was evident that a struggle for sea power could not long be delayed. It was at this critical period that Blake was appointed sole General-at-Sea. It had long been the claim of the English that foreign ships in the Narrow Seas should give the customary sea salutes on meeting English ships. This the Dutch were increasingly loth to do, and on 12th May, 1652, a refusal by a Dutch vice-admiral off the Start to comply with this usage led to him being fired on. A week later, Blake and Maerten Harpertszoon Tromp came to blows in Dover Strait over this same question of the 'Honour of the Flag' and war with the States General was declared on 30th June.

Blake's first move was to attack the Dutch herring busses on the Dogger Bank, after which he sailed north in search of the expected homeward-bound Dutch East Indiamen. Tromp followed in pursuit, but his fleet was badly shattered in a violent gale off the Shetlands, and on his return to Holland he was relieved of his command, de With being appointed in his place. Blake then returned to the Channel to keep in check the Dunkirk privateers. He also assisted the Spaniards to regain possession of Dunkirk by destroying, on 4th September, a French fleet which had been despatched to succour it. France, unable to retaliate, thus learned the force of sea power. She had sheltered Rupert and preyed on English shipping, and retribution had followed.

On 28th September, Blake encountered the Dutch fleet off the Kentish Knock, when de With was defeated. Tromp was then reinstated in command. The next major clash took place on 30th November, off Dungeness. This time Blake suffered defeat. He was greatly upset by his failure and asked to be relieved of his command, but he was too valuable a servant to lose and his request was not granted. Meanwhile Tromp proceeded with his convoy to Ré Island, where he waited to escort back the homeward-bound trade. It was on this occasion that he is popularly, though inaccurately, supposed to have displayed a broom at his masthead. Monck and Deane now joined Blake as joint Generals-at-Sea.

In February, 1653, news was received of Tromp's impending return. He was intercepted off Portland on the 18th, but the three squadrons of the English fleet were not closely disposed for mutual support. Tromp at once attacked with his whole force and the English Red squadron was badly mauled, Blake being severely wounded. Fresh ships, however, gradually came up, and at the end of the day Tromp broke off the action to guard his threatened convoy. Next day, the battle was renewed off the Isle of Wight, the Dutch making a running fight of it. On the 20th, action was again joined off Beachy Head and many of the convoy were captured. That night, Tromp anchored off Calais and the battered English ships did likewise off Cap Gris Nez. Next morning, however, there were no signs of the Dutch; Tromp had got clear away during the dark hours.

Although he had not fully recovered from his wounds when the Dutch were defeated at the battle of the Gabbard (2nd–3rd June), Blake managed to be present on the second day. But in the following month the large number of sick in the English fleet compelled a return to port to land them, including Blake himself. Thus he missed the concluding battle of the First Dutch War, off Scheveningen on 31st July,

when Tromp was killed. No further warlike incidents occurred, and peace was ultimately concluded in April, 1654. To mark their sense of the value of the services of Blake and George Monck—Deane had been killed at the Gabbard—Parliament presented them both with gold chains valued at £300.

Towards the end of 1653 Cromwell had made himself Lord Protector. Whatever Blake may have thought of this step he merely said (or so it is usually supposed) that " it was not the duty of seamen to intervene in politics, but to keep the foreigner from fooling us."

With the subsequent foreign policy of Cromwell we are not now concerned, except to say that he played off France against Spain. Blake was therefore sent out to the Mediterranean, where he became the spearhead of English foreign policy. His instructions were, perhaps, purposely left indefinite, being ostensibly to suppress the Algerine pirates and to protect trade. His demands to the Dey of Algiers for the release of English captives, and for even ordinary watering facilities, met with a blank refusal and he determined to inflict a sharp lesson. This took the form, on 4th April, 1655, of the destruction of the Turkish warships which were lying in Porto Farina. The complete success of this operation disproved the hitherto accepted belief that ships could not prevail against shore batteries and forts.

Blake then learned that Spain, not France, was the enemy. Cadiz was blockaded all that summer, but the Spanish plate fleet did not appear and Blake came home to spend what proved to be his last leave at Knowle. War with Spain was formally declared on 29th November, and in the following March a strong fleet was sent out, only to arrive off Cadiz just too late to intercept the plate fleet, though six ships of a later *flota* were subsequently burnt or captured. Blake continued out all that winter, this being the first time that the great ships had done so. His ships suffered severely in the frequent gales, and the lack of a base in the Mediterranean was sorely felt. Moreover, his ships were foul and short of complement, supplies of stores and provisions were hard to obtain, and his own health was fast declining. Nevertheless, when writing to Edward Mountagu, his late joint-General, he said, " We are all together and behold one anothers face with comfort."

On 17th February, 1657, while Blake was lying off Cadiz, news was received that the Spanish plate fleet had been sighted making for the Canary Islands, but until his ships were revictualled he was unable to undertake any major operations. By April he was ready, and on the 8th he learned that the Spanish *flota* was at Santa Cruz, Tenerife. That night he sailed with his whole fleet.

The fleet arrived off Santa Cruz on 19th April and next day Blake attacked the Spanish ships in the harbour. The result was an outstanding success and Spain was financially crippled for the time being. Parliament voted Blake a jewel worth £500 and Cromwell wrote him a personal letter of thanks. Blake's last act in those waters was to ransom all the English in captivity at Sallee (Sali). In July, he sailed for home ; but on 7th August, as his flagship, the *George*, was about to enter Plymouth Sound, he died, worn out in the service of his country. He was buried in Westminster Abbey, but at the Restoration his body was disinterred and flung into a pit somewhere in the vicinity. Practically no personal relics of Blake remain ; his writing desk, however, is still preserved in the R.U.S.I. Museum at Whitehall.

Blake can be regarded as the founder of the British Navy. Before his time fleets were little more than a collection of individual ships, and he was the first to attempt to weld them into a disciplined fighting force which could work as a whole in action.

He had to start from scratch, but during his period of command the Fighting Instructions were first formulated, though at the time of the Interregnum fleet tactics were very rudimentary. The main fleet was composed of three squadrons—Red, Blue, and White—each under their own flag officers, but nothing was laid down about how they were to combine in a fleet action. At the beginning of the First Dutch War each squadron normally fought separately, with little or no regard to what the other squadrons were doing. The idea of a line-of-battle, controlled by the Commander-in-Chief, was still to come. No real system of signals had yet been evolved, and orders during an action were mostly given by hailing, or when that was impracticable by sending over a boat. It was all extremely elementary.

Blake was a staunch Presbyterian and intensely religious, though he eschewed the excessive Puritanical verbiage which was current during his lifetime. He was a strict disciplinarian with a stern sense of duty, but he never demanded from his officers and men more than he required from himself, and he was unremitting in his endeavours to keep them supplied with food and clothing. In this 300th anniversary of his death we can look back at the figure of what a good naval Commander-in-Chief should be.

DE RUYTER[2]

This year is also the 350th anniversary of the birth at Flushing of Michiel Adriaenszoon de Ruyter, which occurred on 14th March (o.s.), 1607.[3] He was of humble extraction and the fifth in a family of 11 children, his parents being Protestants of the Dutch Reformed Church.

De Ruyter began his career as a boy in a merchant ship, when he saw the West Indies for the first time. He was then 11 years old. During the war with Spain, which had broken out again in 1621, he served for a short time as a soldier, but soon entered on board a warship where he was severely wounded in the head from a pike thrust. He then resumed his calling as a merchant seaman, still serving before the mast, and for some time he was employed as a clerk in a Dutch shipping office in Dublin. In 1633, he had risen to become mate of a Zeeland whaler. The next few years were spent whaling, with intervals of privateering, and in 1637 he was commanding a ship as master. In this capacity he was better than most of his contemporaries. Six years later he was once more employed in mercantile trade, and in 1644 he launched out in a ship of his own, trading to the Barbary coast and in the West Indies for nearly eight years more.

De Ruyter had been married in 1631, but his wife died the same year. He married again five years later, but was once more a widower in 1650. His third wife, a widow, joined him on 29th December, 1651, and survived him. He then evidently had thoughts of 'swallowing the anchor,' for he bought himself a fine house in Flushing. This, thanks to successful trading and privateering, he was well able to do and the wishes of his wife assisted him to make up his mind; he might have settled down as a respectable burgher in his native town. But the halcyon days did not last. Six months later fate stepped in and decreed otherwise. He was now 45 years of age and was to become one of Holland's greatest admirals.

The causes of the outbreak of war with England in 1652 have already been referred to. The Dutch naval organization differed from that of the English in that it

[2] *Onze Vloot*, Maart 1957—De Ruyter-herdenking 1957. *The Life of Admiral de Ruyter* (P. J. Blok); translated by G. J. Renier, Ph.D.

[3] All dates here are given in Old Style.

comprised five separate admiralties—Zeeland, the Maas, Amsterdam, the Northern Quarter, and Friesland—which were intensely jealous of their autonomous status. Maerten Tromp was then in command of the regular Dutch fleet, and in mid-July Witte Corneliszoon de With was recalled from that fleet to take command of the new fleet of requisitioned merchant ships which were being equipped by the different States. The general efficiency of these merchant ships, however, left much to be desired. Additional subordinate commanders of repute were required, and after much persuasion de Ruyter finally consented to serve under de With. This was only a temporary appointment and he had not yet received a regular commission.

As de With was still at sea with Tromp, de Ruyter's first task was to instil some sort of order and discipline into this rather scratch lot of ships and men. On 16th August, while escorting a convoy down Channel, he had an indecisive brush with Sir George Ayscue off Plymouth, and on the 22nd he joined forces with de With. He next accompanied Tromp's convoy to Ré Island, and on his return to Holland in 1653 he was given a regular commission. He took part in all the fleet actions of the First Dutch War.

Although there was no more fighting after the battle of Scheveningen (Terheide), peace was not concluded until February, 1654. Convoys, however, both to the Baltic and overseas, still required protection, and in the autumn of 1653 de Ruyter served under de With, who now commanded the Dutch fleet. All the convoys got through, but in a November gale many ships of the fleet foundered or were dismasted; de Ruyter's own ship escaped with the loss of two anchors and cables.

Meanwhile the States General had been considering whom to select in succession to Tromp. De With was very unpopular with his captains, which did not make for unity, so the post of Commander-in-Chief was offered to Jacob van Wassenaar Obdam, a cavalryman who had no previous sea experience. This he accepted in October. De Ruyter was invited to serve as one of his subordinates, still without definite rank, but refused. It was then decided to appoint a vice-admiral and a rear-admiral to each of the three admiralties of Holland in order to ensure the regular supervision of naval preparations, and de Ruyter was selected to fill the post of vice-admiral of the Amsterdam admiralty. He was still reluctant to serve but eventually was persuaded to do so by the eloquence of the Grand Pensionary of Holland, Johan de Witt. In February, 1654, he took the oath attaching to the post and so entered the regular service of his country. He thus severed his connection with the admiralty of Zeeland.

In July, 1654, de Ruyter was employed in escorting convoys in the Mediterranean; he also renewed friendly relations with the Moroccan ruler at Sallee, and in November he was back in Holland. Next year he took out a strong force in order to check the piratical activities of the Algerines. Whilst on this service he met the English fleet under Blake, with whom he exchanged civilities. He returned home in April, 1656, having destroyed several pirates and obtained the release of over 100 Christian slaves, among whom were many Dutchmen. But there was no rest for him and he was immediately ordered to the Baltic to protect Danzig (the granary of Holland) against a Swedish threat. Before the end of the year de Ruyter was again on his way out to the Mediterranean for the suppression of piracy, in which he was ordered to assist all English and Danish ships similarly employed. He returned to Holland in November, 1657.

Piracy in the Mediterranean having been largely checked for the time being, de Ruyter then had a restful period at home for about six months; but in the summer of 1658 he was again off Lisbon and the trade of Portugal, with whom war

had been declared in the previous October, was brought practically to a standstill. By the beginning of November de Ruyter was home once more. Between May, 1659, and August, 1660, further service in the Baltic kept him fully occupied.

In August, 1664, de Ruyter received instructions of an entirely new nature. Rumours had been current in Holland ever since the previous March that the island of Gorée, on the Guinea coast, which belonged to the Dutch West India Company, had been seized by Captain Robert Holmes. There had been complaints by the English West India Company there of the alleged confiscation by the Dutch of several of their vessels—probably there were faults on both sides. As an expedition from Holland would have taken some time to prepare, de Ruyter was ordered to proceed to Gorée and recapture the Dutch possessions. He appeared off Gorée on 12th October, and two days later received the surrender of the place. The account of his subsequent operations on this coast must be omitted.

On 3rd February, 1665, when at Elmina, de Ruyter received orders to return home by a roundabout route, first attacking English possessions in the West Indies and finally proceeding northabout round the Shetlands. Having cleaned his ships and watered, he accordingly sailed on the 18th. After a tedious passage he appeared off Barbados on 19th March, but was repulsed. War with England had by this time been formally declared. Several English merchant ships were then captured or destroyed at the various islands in the West Indies, and early in April the island of St. Eustatius was seized ; a few more ships were captured off Cape Race on 3rd June, and seven days later the Dutch fleet and its convoy made sail to the eastward. On 9th July, the Færöes were reached and course was shaped for Jutland. On the 12th, however, warning was given by a patrolling Dutch galliot that the East Indiamen should take refuge at Bergen. It was then that news was received of the Dutch defeat at the battle of Lowestoft on 3rd June, when Obdam was killed. At this time Sandwich was cruising in the North Sea in the hope of falling in with de Ruyter, but at the critical moment he was too far to the north and the Dutch fleet slipped through to the south, arriving safely at Delfzijl on 28th July.

A successor had now to be found for Obdam, but there were several officers of equal rank whose claims had to be considered. The choice was soon made. On 1st August, it was decided by the States General that de Ruyter, who had recently been made Lieutenant-Admiral of Holland, should be Commander-in-Chief of the fleet, he being " of the present chief officers the ablest." He now selected as his flagship the ***Zeven Provinciën***, which ship continued to wear his flag for many years to come.

By the end of May, 1666, a strong Dutch fleet of over 100 ships had been assembled, and on the 31st de Ruyter took it to sea. Next day the English fleet, under the Duke of Albemarle (as Monck had become), was met off the North Foreland and then ensued the Four Days' Battle. Both fleets were badly knocked about, but the details of this sanguinary succession of encounters cannot be enlarged upon here. The Dutch claimed a victory, which it undoubtedly was ; at the same time, they paid ungrudging tribute to the valour of Albemarle and his men. As de Witt said in conversation with the then English Ambassador, Sir William Temple, " If the English were beaten, their conduct did them more honour than all their former victories. . . ." The next fleet action took place on 25th July, off Orfordness. The English formed in a single line-of-battle, but de Ruyter's three squadrons were too far apart from one another and the result was another Dutch defeat. During the autumn of that year de Ruyter was sick on shore.

Meanwhile the Dutch continued with their preparations for the resumption of hostilities, and in 1667 plans were drawn up to force an entrance into the Thames. This operation had long been a cherished idea of de Witt's, but until then de Ruyter had not considered it to be feasible. On 7th June, the Dutch fleet anchored in the King's Channel, in the Thames Estuary. De Ruyter, with the larger ships, remained at the Nore, and two days later the lighter-draught ships under Colonel Willem Joseph van Ghent (a land officer with but little sea experience) proceeded to enter the Thames; but they got no farther than the Lower Hope reach and were obliged to withdraw without having done any damage. Van Ghent then returned to the mouth of the Medway, and on the 11th the unarmed fort at Sheerness was captured, which left him free to ascend the river as soon as the tide served. Next morning Cornelis de Witt,[4] who had accompanied van Ghent, sent a message to de Ruyter, requesting his presence up the Medway; he came up by boat as soon as possible but did not assume direct command of the operations until the following day, the 13th. By this time the boom across the river had been broken, the *Royal Charles* had been captured, and several other ships set on fire. The Dutch withdrew on the 14th, taking their prizes with them.

During the next few weeks a second entry up the Thames also came to naught, and other attempts at a landing on the East Coast were equally unsuccessful. Meanwhile de Ruyter had proceeded down Channel as far as the Scillies, though without achieving anything of importance. Peace was concluded on 21st July, but de Ruyter did not finally get back to Holland until 5th October.

De Ruyter was now 60 years of age and his health had several times failed of late; it was all the more necessary, therefore, for him to have a period of rest on shore among his family. But although he was not called upon to go to sea during the next four or five years, naval administration continued to occupy much of his time. In the autumn of 1671, however, relations between Holland and France deteriorated and it was thought that England was likely to side with France against the Republic. The Dutch fleet was therefore brought to a state of readiness, though not to the extent that de Ruyter considered necessary. On 12th March, 1672, Captain Robert Holmes, who was cruising in the Channel, attacked the homeward-bound Dutch Smyrna convoy. Five days later Holland once again found herself at war with England, who now had France as an ally.

The first fleet action of the Third Dutch War took place on 28th May, 1672, off Sole Bay. The English fleet was commanded by the Duke of York, the French (who formed the White Squadron) being under Comte d'Estrées. De Ruyter, once more afloat in the *Zeven Provinciën*, was Commander-in-Chief of the Dutch fleet. After several hours of fierce fighting, with losses on both sides and many casualties, the Dutch withdrew, leaving the Allies in no real condition to follow. De Ruyter, had however, removed for the time being any danger of an English landing or blockade.

The next fleet action took place exactly one year later, when de Ruyter met the Allied fleet, this time under Prince Rupert, off Schooneveld. The engagement was indecisive. It was renewed seven days later with equally inconclusive results. All this time the Dutch were expecting to be invaded by the English and de Ruyter

[4] Cornelis, a brother of Johan de Witt, was the delegate representing the States General. Without his approval no important measure could be undertaken by the Commander-in-Chief. A similar practice, incidentally, was adopted by the French at the end of the 18th century, during the French Revolutionary War.

remained for the most part off Schooneveld, an additional cause for concern on his part being the shortly-expected arrival of an East India convoy. On 11th August, he was off Camperdown and, the Allied fleet being to the northward, he decided to attack. The action (known to the English as the battle of the Texel) lasted all day. The only ships lost by either side were fireships, but in both fleets many of the heavier ships were severely damaged and several senior officers were killed. Neither side could claim a decisive victory. The Dutch East Indiamen, however, never arrived, for they had been captured off St. Helena.

After a quick refit de Ruyter continued to cruise between the Texel and the Vlie, but bad weather in October prevented further active operations. There was no more fighting and on 9th February, 1674, peace was signed. The procedure for salutes, etc., between ships was now settled on a firm basis, though not perhaps to the entire satisfaction of de Ruyter.

Hostilities against France, however, still continued and preparations were made for an attack on the French possessions in the West Indies. The expedition, under the command of de Ruyter, was rather late in starting, and in view of the approach of the hurricane season he decided to concentrate on an attack on Martinique. This took place in July, 1674; but the French in Martinique had known for some time past what was coming and they repulsed all attacks. De Ruyter accordingly returned home to report a complete failure.

Early in January, 1675, the Spanish fleet had been defeated by the French off Stromboli and the assistance of a Dutch squadron in the Mediterranean was asked for. It was particularly requested that de Ruyter should be in command of it. Apart from the protection of Dutch trade, the main object was to recapture Messina for Spain. But Spanish naval co-operation was slow in forthcoming and de Ruyter, whose own force was none too strong, was in two minds whether to prolong his stay in the Mediterranean.

During March and April, 1676, attacks by the Spanish and Dutch on Messina and Augusta respectively were beaten off. On 12th April, the French fleet, which was commanded by Du Quesne, hove in sight off Catania; but owing to lack of wind action was not joined until the afternoon. Early on de Ruyter received the second wound in his long service; this time it was more serious, both his legs being broken by a shot. Severe fighting continued until dark, when the French hauled off. Both fleets had several hundred casualties, but Du Quesne remained at sea and a French convoy got safely into Messina. With the remaining misfortunes of the Dutch squadron we are not now concerned.

The Spanish and Dutch fleet anchored off Syracuse in the evening of the 13th to refit. At first there seemed a good chance of de Ruyter's recovery, but on the 16th he developed a violent fever. He lingered on for another three days but in the evening of 19th April, 1676, he passed quietly away " on the bed of honour," as his secretary wrote to his daughter. De Ruyter was then in his 70th year. The body was embalmed and brought home in the *Eendragt*, which arrived at Helvoetsluys on 20th January, 1677. The funeral took place on 8th March, the coffin being placed in the vault in the Nieuwe Kerk at Amsterdam.

Much could be said about the many great qualities of de Ruyter, among which are his patriotism, devotion to duty, leadership, personal courage, and unpretentious manner of life. Perhaps the best attribute to his memory, and one which he himself

would surely have esteemed above any other, is the affectionate nickname by which he was known among the sailors he commanded with such distinction—*Bestevaer* (Best Father) : the best of all, the sailors said.[5]

There is a great similarity of character between Blake and de Ruyter, both of whom were sincere Protestants but without that intolerance of sectarian dogmas which was not uncommon in their time. Both were capable seamen. In patriotism, devotion to duty, and care for their men there was nothing to choose between them.

* * *

The period covering the era of Blake and de Ruyter is noteworthy in that naval battle tactics underwent a marked change. In 1588, the tactics employed at the defeat of the Spanish Armada had been those of a number of individual ships attacking an escorted troop convoy which was proceeding up Channel. There was no concerted attack by a group of ships in close order on a particular point in the enemy's crescent line abreast.

In 1652, a fleet action was, to a great extent, fought by the three squadrons on each side acting more or less independently. The Commander-in-Chief (or the joint Generals-at-Sea) could exercise little control over the battle once action was joined. The three groups of each squadron attacked in succession, rather on the lines of the three ranks of a regiment of infantry, where the front rank, after discharging their muskets, passed through the ranks to the rear in order to reload. In fact, they copied the land tactics of the time.

On 29th March, 1653, immediately after the battle of Portland, the Generals-at-Sea (Blake, Monck, and Deane) issued over their joint signatures the first of the Fighting Instructions which introduced the single line ahead formation.[6] The English fleet was thus kept more or less concentrated up to the moment of opening fire, but after that the action was still liable to develop into a ' free-for-all.' Fireship tactics tended to aggravate the conditions of the mêlée, and custom dictated that flagship should always engage flagship.

On the outbreak of the Second Dutch War the Fighting Instructions were revised. They were very similar to those previously issued and differed only in minor details. It was not until the Four Days' Battle that de Ruyter, for the first time, adopted the English formation, though he did not form a true line on that occasion. Thus it was the Dutch who copied the English in this matter of the line, and not the other way about. Thereafter, for the next 100 years, the fetish of the formal single line-of-battle held sway with increasing rigidity until the time of Rodney.

[5] This nickname was originally given to Maerten Tromp, and later on was also given to de Ruyter.

[6] *Fighting Instructions*, 1530–1816 (Navy Records Society, Vol. XXIX).

THE INTERNATIONAL SITUATION[1]

By AIDAN MACKEY

THE CHANGING OF THE GUARD

THE developments in international and imperial affairs within the past three months would appear to offer some justification for the fears of those commentators who dispute the frequently-advanced thesis that " the Empire is not breaking up, it is growing up." The advantages or otherwise of the passing over to the United States of responsibility for the defence of the Western world and its spheres of influence is a matter over which controversy will long rage, but that such a transference of military—and economic—initiative has been a major phenomenon of post-war years would appear now to be hardly open to dispute. Even as this survey is being written the main body, 50 strong, of the old British garrison in Bermuda returns to this country under the command of Brigadier B. E. Luard, fresh victims of our defence cuts. They leave behind them only a handful of British soldiers, and these too will soon leave. Bermuda will then find its protection in its own two units and in the two large United States bases there.

In July it was announced that the United States would stock-pile nuclear weapons in the United Kingdom. This was reported to be the result of a plea by the British Government, who feared that disarmament talks might fix a cut-off date for the manufacture of atomic weapons while we were still unprepared. To those who fear that such mutual defence arrangements must involve some relinquishment of national sovereignty on the part of this country, the sting in the tail of that promise lies in the explanation given by Mr. John Foster Dulles as to why it was likely to be possible to commit the United States to the measure without waiting for the permission of Congress. Permission would not be required, Mr. Dulles is reported as saying, because the Supreme Allied Commander, General Norstad, would " have the stockpiles under his control *in his capacity as an American general.*"

In the same month Sir Philip McBride, Australian Minister of Defence, returned with his team of advisers from discussions in the United States, and his comments on the fruitfulness of his visit gave clear indication that Australia will continue to link more closely with America in the field of defence, and that there is a likelihood of Australia committing herself to the employment of American aircraft and equipment. Mr. Douglas Wilkie, the Australian correspondent of *The Manchester Guardian*, reported that defence authorities there saw no advantage or purpose in working in co-operation with the R.A.F., " now that Britain has given the impression that she cannot guarantee effective military intervention in the Asian-Australian theatre." If the British Government has indeed conveyed that impression, it is not easy to reproach Australian defence experts if they, again in the words of Mr. Wilkie, " argue that the R.A.A.F. must sooner or later operate virtually as a wing of the United States Air Force."

It is, then, against this background of an increasing tendency to pass the burden and the rewards of defence on to the not unwilling shoulders of the United States that the events of recent months must assume their true perspective.

SYRIA

The sudden crisis in Syria was not, it now appears, quite what it seemed at first sight. There is little doubt that Syria has, in fact, moved somewhat closer to the

[1] As deduced from reports up to 14th October.

Soviet Union, but there is still no real evidence to indicate that she has gone Communist. It may be entirely a matter of chance, that, not for the first time, a crisis has arisen at the moment when the future of President Eisenhower's Foreign Aid Programme has been in jeopardy. A tendency on the part of the House of Representatives to cut the Foreign Aid appropriations has long been a source of embarrassment to the President, for upon that programme depends the disposal of the huge post-war American surpluses.

At the beginning of 1956, President Eisenhower tried unsuccessfully to obtain long-term authorization, speaking of "a ten years' haul," and he regarded this year's drastic cuts as a major reverse for his policy. The felicitous timing of the Syrian crisis is apparent from the argument advanced by Senator Javits, the Republican Senator from New York, as reported in *The Daily Telegraph* last month: "Senator Javits . . . quoted the Syrian crisis today as the best argument for restoring the Foreign Aid total to Congress's original authorization of $1,202,500,000. He said, 'The Communist *coup* in Syria is a most potent argument for the full authorization. To accomplish our policy we need the means, and these are contained in the appropriations for mutual security. If we fail in these we will be failing to read the lessons of the Syrian *coup* in the interests of our national security'." The *coup* certainly achieved the effect of restoring some two-thirds of the cuts made in the appropriations, and equally certainly it becomes increasingly difficult to consider the situation in the Middle East in simple terms of opposing Russian and United States interests.

The more recent moves which have involved the dispatch of Egyptian troops to Syria do not appear to constitute any tangible threat to peace in that area. The situation may well generate some little additional tension in the Middle East, but it is against a pattern of tension and through obscure and seemingly conflicting tendencies that the most significant moves in international politics are now customarily made.

Two less publicised but perhaps not irrelevant issues have arisen during the excitement—largely confined to the Press—of the arrival of the Egyptian troops in Damascus. The first is that the Persian Government has, in the past few days, been considering proposals by American financial interests, led by a New York investment banking firm, for the construction of a thousand-mile pipe-line capable of carrying some half a million barrels of crude oil a day from the nationalized Kum field in northern Persia to Iskanderun, the Turkish Mediterranean port. An American company has already been formed to finance and control the construction of the pipe-line. The course which the pipe-line would have to follow would seem to indicate that the financial interests concerned—and these are normally adequately informed on these matters—do not anticipate any drastic disturbance in the area in the immediate future.

The second minor issue is the persistence of reports that American pilots are being used to transport Russian arms and equipment for the Yemeni Government to points of distribution along the frontier of the Aden Protectorate. The American State Department, on 14th October, declared itself unable to offer any information about this but admitted that Britain had made 'informal enquiries' through diplomatic channels.

CYPRUS

The exact nature of the situation in Cyprus remains obscure but it seems that a formula is being sought, and will probably be reached in the near future, by which

some form of independence will be granted to the island. An important factor—possibly the most important factor—in any settlement is the interest of the United States Government in the future of the island. This has been a declared interest since the time of the deportation of Archbishop Makarios, when the U.S. Ambassador in Athens tendered his Government's sympathy to the Greek Government.

Now a *Sunday Times* correspondent is able to report that, " It is the considered opinion of the American State Department that the British Government is preparing to negotiate the relinquishment of Cyprus as a colony and to give the island full independence." If the report is correct in its forecast that a condition of a British withdrawal would be that Cyprus would not seek union with Greece, it would appear to cast some doubt on the validity of the claims that popular clamour has been directed to achieving *enosis*, and it would tend to support claims that our willingness to abandon the island would owe more to American pressure than to recognition of any right. Mr. Colin Legum, Colonial Correspondent of *The Observer*, has said quite bluntly that the decision has already been officially taken that " no policy will be worth pursuing unless it can gain the acceptance of the United States Government. The aim is to get President Eisenhower to identify himself publicly with the British policy."

Meanwhile, anxiety in Turkey over the future of the Turkish minority in Cyprus grows steadily. This is certainly due in part to inter-party squabbles during the current election campaign, but it also owes something to a fear that the present standstill in the island is only a temporary cessation of hostilities between parties who anticipate the early appearance of a workable formula. Turkey is anything but sanguine that the awaited formula will secure the safety of the Turkish minority. Speaking at Adalia early in October, President Bayar demanded that consideration be given to the fact that Cyprus belonged to Turkey for several centuries, that 120,000 Turks are now living there, and that Turkey has legitimate strategic and political interests to protect. The Turkish Government, he said, had put the matter before the world public opinion in the conviction that those rights would be recognized.

MALAYA AND SINGAPORE

Malaya achieved ' independence ' on 1st September. The pattern of events differed very little from that to which we have become accustomed. One noteworthy variation was that, for the first time in the constitutional history of the Commonwealth, a territory on becoming independent relinquished its allegiance to the Crown and immediately adopted its own Head of State. It has been remarked that, as in previous instances, the masses who were said to have been united in devotion to the cause of ' freedom ' seemed to have been singularly apathetic and lacking in awareness of the issues involved. Letters from listeners after a series of broadcasts on Merdeka asked such questions as: " Will all Europeans leave Malaya on 31st August ? Is Merdeka only for Malays, and will they take over all Chinese and foreign business ? Will all train travel be free after 31st August ? Will we have to work after Merdeka ? Will everyone be given three months wages on Merdeka day ? "

There was in August an interesting sequel to a Press Conference at which Mr. Duncan Sandys said that although British forces would be cut, fire-power available in Malaya would be greater than previously because of the introduction of nuclear weapons, and he pointed out that British Canberra jet bombers had been modified to enable them to carry atomic bombs. The Malayan Defence Minister-designate

thereupon declared that the agreement by which Britain retained bases in Malaya did not make any provision for the employment of local bases for atomic warfare, and that there was no intention of allowing any such use to be made of them. This clear indication that we have not retained full sovereignty over those bases is disturbing, as are the terms upon which we hold the bases. These terms stipulate that the bases shall be used by us only in the event of a *direct* attack upon British territory or upon Malaya. An enemy force could sever the road to Burma, or otherwise make an indirect but not less damaging attack on that territory, and we would be forbidden the right of retaliation through those bases.

The swiftness with which Britain's powers in the Far East are being reduced lends some strength to the belief that the ultimate aim may be a federation of South East Asia. It is true that Mr. Lim Yew Hock denied any such aspiration during his visit to London last year, but there are cases on record in which such a denial has proved to be not the last word and it may be worth noting that the Singapore Legislative Assembly, in conveying greetings to the Legislative Council of Malaya, unanimously expressed the hope that their peoples would be " merged into a single political unit." From a Malayan Federation to a fully-fledged Federation of South-East Asia may well be an easy transition.

THE FREE TRADE AREA

As the Chancellor of the Exchequer, Mr. Thorneycroft, and the Paymaster-General, Mr. Maudling, leave for Paris to try to mobilize support for the European Free Trade Area proposals, they leave behind them a country far from united in its support. The haste with which the Government's attitude has been formulated has meant that opposition is, for the most part, unorganized. But it is none the less real because of that. In particular, a surprisingly large number of workers have failed to be reconciled to the scheme in spite of the somewhat cautious blessing bestowed on it by the T.U.C.

This lack of enthusiasm may have some connection with the warning given by Mr. C. J. Geddes, a former chairman of the T.U.C. General Council. Mr. Geddes, although supporting the scheme, was candid enough to point out that acceptance of the concept by Britain's trade unions would mean that " the British worker would have to make temporary sacrifices, even to the extent, if necessary, of accepting a lower standard of living to raise the standard of living of workers in the more backward countries in Europe." It may be that the British worker is not yet convinced that such sacrifices would, in fact, be only temporary in nature, and that the free entry into this country of goods produced by cheap Continental labour constitute a threat besides which any advantages to be derived from the arrangement appear somewhat nebulous.

To the Labour Party itself the scheme seems to be regarded principally as an opportunity for the extension of Socialist legislation. Mr. Harold Wilson said in the House of Commons some months ago that his Party regarded the plan " not as a generalization of a free economy but as a change of policy which will require very fundamental changes of internal policy in this country. This is our chance, our one chance, to increase investment, and in our view this will mean more controls, more positive planning measures, more positive use of public ownership, not only to increase the total volume of investment in this country, but also to direct that investment more purposively into the industries we most need to expand." Conservative papers supporting the free trade system were discreet enough to ignore or play down a statement so likely to scare industrialists and business men.

Ministers have frequently reiterated the determination of the Government to insist on the exclusion from any agreement of all agricultural produce, but there remains a great deal of scepticism on the point. Farmers are not alone in feeling that Continental opposition to the agricultural reservation will be extremely strong, and that the British stand may weaken under that pressure rather than delay for long a step the popularity of which might decrease in this country as its full implications and the logical political developments become more widely recognized.

A recent move in the controversy was the action of a group of unnamed Lancashire and Yorkshire industrialists who, in September, raised £250,000 with which to launch a major campaign against the Government's plans for participation in the free trade area. The industrialists are said to be planning to recruit Conservative Members of Parliament and candidates by offering sitting Members who will oppose the Government on this issue a three-year contract as officers of the organization which is to be set up. Since that announcement, however, nothing more has been heard of the progress of the campaign or of any success which may have met its quest for supporters inside the House.

Even if this belated appearance on the scene is not too late to be effective, it seems doubtful if such an organization could readily provide the militant spirit necessary to rally the forces of opposition. The dangers inherent in the concept probably lie more within the concomitant political sphere than in the immediately apparent economic arrangements involved, and any defects would best be revealed by an investigation of its widest implications and probable future development and of the influences which have so long worked for its establishment.

CORRESPONDENCE

(Correspondence is invited on subjects which have been dealt with in the JOURNAL, *or which are of general interest to the Services. Correspondents are requested to put their views as concisely as possible, but publication of letters will be dependent on the space available in each number of the* JOURNAL.—EDITOR.)

STAFF WORK FOR THE COLD WAR

To the Editor of the R.U.S.I. JOURNAL.

SIR,—In Mr. Donald McLachlan's lecture on " Staff Work for the Cold War," given at the Royal United Services Institution on 30th January, 1957, and reprinted in the May, 1957, edition of your JOURNAL,[1] he suggests that to help us fight the cold war more efficiently there should be :—

> " . . . a Director of Para-Military Operations in the Ministry of Defence, a senior civil servant, very senior, not controlling any agencies, but co-ordinating the agencies that exist, having direct access to the Prime Minister, Foreign Secretary, and Minister of Defence in order to get quick decisions on policy; working at every stage with the joint intelligence and joint planning organization; having access to secret funds; some protection from Parliamentary questioning; and responsible for liaison with similar organizations in friendly countries."

With all due respect for such an expert on cold war as Mr. McLachlan, I consider the ideas brought out in his lecture are excellent. But, at the risk of appearing pedantic, I wonder whether, if they were implemented, there might not be a risk of them falling short of their purpose because of his somewhat curbed definition of cold war as " all mischief short of hot war."

Surely the cold war can be, and in fact is at the moment, a very real war. With the aim of achieving world domination by all means short of global hot war, the Kremlin has been waging it against us ever since the end of the second World War. It is a type of warfare, almost global in extent, sandwiched between diplomacy and what we used to regard as real, or hot, warfare, which is liable from time to time to develop into limited hot warfare, as likely as not by proxy.

Because of the Kremlin's direct but often obscured threat to all that we have, its present war against us is in some respects even more dangerous than global hot war. It must be combatted by an effort national in both character and extent, not as hitherto by improvised machinery and half-hearted methods. The resources of many civilian as well as military agencies are required to fight it. From time to time nearly every Ministry is liable to be concerned and to be in a position to contribute. It must therefore be controlled at the highest level, by a standing War Cabinet, or ' Cold War Cabinet ' if you like, under the direction of the Prime Minister or, at the very least, a specially appointed deputy.

To co-ordinate the many different agencies required to prosecute the cold war successfully under the overall direction of the War Cabinet, the machinery in the form of joint civilian/military, including para-military, staffs should undoubtedly be set up, initially in the Ministry of Defence, on the lines suggested by Mr. McLachlan. But there must also be a senior para-military staff officer in every overseas command, not only to ensure that the Commander-in-Chief is provided with all the cold war information he needs to do his job properly but also to co-ordinate local special operations and other para-military activities on the spot, especially counter-propaganda at which we are so inept. In the event of limited hot war breaking out, these overseas para-military staff officers would provide the Commander-in-Chief with the essential expert advice to enable him to fight the local hot war with all the cold war or para-military resources and techniques which should be either at his direct disposal or at least available to support him.

E. C. W. MYERS,
Brigadier.

10th September, 1957.

[1] Page 170.

THE SEA—KEY TO AIR SUPREMACY

SIR,—After the late war and on the birth of nuclear bombs the Government, public, and Press appeared to come to the conclusion that the sea had become of little importance as a factor in future war operations. This myopia, brought on by the fierce light shed on these and other new weapons and the confusion arising out of the failure to distinguish means from ends—a malady to which all of us are often prone—seems to be passing away slowly, but we appear to have a long way to go before we shall again be in the mood seriously to study the manifold uses which the sea offers us and to turn them to full account.

It is therefore very refreshing to come across the article " The Sea—Key to Air Supremacy ?" in the JOURNAL'S August issue.[2] Squadron Leader Davies is one of those who have no doubts about the infinite possibilities of the sea in any war to which we may be committed, and invites us to consider a new way of using it. It is a way which, he affirms, would add greatly to the strategic scope of land-based aircraft and which, indeed, were our shore air bases and runways rendered useless by nuclear bomb damage and fall out, might be the only way by which the Royal Air Force could maintain offensive operations against the enemy.

The present writer can give no sort of opinion as to the practicability of the hydro-ski or pantobased aircraft, but the writer of the article is convinced on that point.

Surely, if the demand for such contrivance is imperative, further trial and error and inventiveness might well lead to even greater success than he anticipates. Let us remember the early days of naval flying. The first World War was close upon us and, starting off with crude contraptions, means were soon devised to fly aircraft off ships and barges pending the production of the first aircraft carriers. If such things could be accomplished half a century ago, Squadron Leader Davies's ideas do not sound at all extravagant.

His regret that our air authorities appear never to have seen much use for flying boats must be shared by many, for Britain and the Commonwealth and Empire, with their thousands of miles of littoral with sheltered bays, inlets, and rivers, surely invite that type of aircraft, and especially in a nuclear war, for the transport of troops, food, and many other things.

How rightly Squadron Leader Davies says : " Throughout our island history we have exhibited a native flair for exploiting our maritime resources." The sea is still there and nothing has happened to render it less open to exploitation than in the past—indeed it seems more open, for the sea, when H-bombs begin to drop, would appear to be a more stable element than *terra firma* or, rather *infirma*, This would seem to be one of the queer results of, to use a lower deck expression, ' mucking about ' with the atom !

G. C. DICKENS,
Admiral.

19th September, 1957.

SIR,—Squadron Leader L. W. Davies has written a very interesting article, but has it any relevance to British strategic planning for global war ? He reminds us that 12 megaton bombs dropped simultaneously would " paralyze both our air defences and our ability to launch a nuclear counter-attack." They might also disrupt all organization and authority in the United Kingdom. In addition we are reminded of maritime warfare. I suggest that, for the United Kingdom, a submarine threat directed at our shipping could not prevail in limited war. In unlimited war, the menace would be submerged in far greater events of a fantastic intensity.

[2] Page 354.

However, there are several important ways whereby maritime air forces are able to contribute to the deterrent force, and perhaps it is in them that the ' pantobased ' machine can make its contribution. Two possible examples are as follows :—

(*a*) Offensive action against enemy submarines armed with nuclear weapons will needed before, during, and possibly after the bombing and rocket offensives are completed.

(*b*) The marshalling of ships to suitable ports. Should normal public facilities collapse because of the enemy's nuclear offensive (which failed to win the war), then in order to succour the population the task of resuscitation will be vital. The speed at which the large-scale importation of food, medical aid, and raw materials can be carried out will determine to a considerable extent the stress to which the nation will be subjected. Delays of even a few days could have terrible consequences.

Finally, it would be interesting to know how many " 24-jet engine flying boats " are needed to supply the wants of 10,000,000 people for 30 days. I understand that a similar problem, in terms of road and rail, was worked out during the second World War, and that the answer was staggering.

R. W. GORDON,
Flight Lieutenant.

25th September, 1957.

VETERANS OF TWO WORLD WARS

SIR,—Your readers may be interested to know that an organization called the ' Pakistan Ex-Servicemen Association ' has come into being with the object of serving the interest of widows, orphans, invalids, and dependents of soldiers. But no institution worth the name can function or prosper without monetary and technical assistance. Such is our case at present, and it is feared that a noble cause will suffer for lack of funds and material. Before it is too late we feel morally bound to invite your kind attention through the medium of your esteemed JOURNAL.

The primary aim of the organization is that a complete and respectable workshop be installed for the purpose of repairing, overhauling, and servicing of all kind of modern vehicles, which would be a source of income in aid of widows, orphans, and invalids. It will also provide opportunities for orphan boys to learn the numerous trades in the profession.

It is therefore requested that munificient and generous brothers should come to our help, as we shall feel greatly thankful and encouraged by anything between a penny and a pound, and a screw and a lathe.

Individual help, particularly from those brother officers and other ranks who have served the Army in this country, will be as much welcome as collective help from generous and well set up institutions.

The Australasia Bank Limited, Gujrat (West Pakistan), is the custodian of the Association's accounts.

ALI ASGHAR,
Major.

17th September, 1957.

THE BATTLE OF PLASSEY, 1857

SIR,—Major O'Ballance's very welcome article about Plassey[3] unfortunately tends to perpetuate the myth, largely American, that the " English conquered the Indians."

The stark truth is that at Plassey our adversaries were Turks with, as Major O'Ballance points out, some Afghan cavalry and French artillery. The Moghuls of Delhi and Murshidabad had quite recently arrived from Turkestan and had not had time to intermarry to any large extent. The Company's sepoys were more genuinely ' Indian,' but nominal rolls show that Tamils and Telegus were not enlisted until later. Therefore at

[3] See JOURNAL for August, 1957, p. 363.

that date we should not call the Army of Fort St. George a ' Madras ' Army. We may pursue this matter further and find that during our 300 years of Asian expansion we fought against Frenchmen, Dutchmen, Spaniards, the Turks of Delhi and Bengal, Afghans in Mysore, Seringapatam, and Rohilkand, and in the ranks of the Pindaris, and indirectly against Russian incursions in Afghanistan in 1839 and 1879. In all these campaigns we had the more Aryan martial races of the whole sub-continent almost entirely on our side, with few exceptions.

So ' Indian wars ' are more correctly speaking a monopoly on the United States.

L. V. S. BLACKER,
Lieut.-Colonel.

19th September, 1957.

THE CORUNNA CAMPAIGN

SIR,—To my mind this discussion on the Corunna campaign has now served its purpose. I have stated my point of view; Major de Gruchy has stated his. Those who are interested are now in a position to decide between us for themselves, and neither he nor I are likely to convince each other.

Major de Gruchy's last letter, indeed, hardly deals with the Corunna campaign at all, but ranges far and wide on the whole history of the British Army down to the last war. If I were to follow his example, I fear we should only wander still further from the original topic, and end up by discussing the siege of Troy, on the excuse that the founder of the British race, the mythical Brutus, was once supposed to have fought there, and that Hector is mentioned in the song *The British Grenadiers*.

E. W. SHEPPARD,
Major.

29th September, 1957.

GENERAL SERVICE NOTES

NORTH ATLANTIC TREATY ORGANIZATION

German Contingent

On 5th July, three of the 12 West German divisions to be allocated to N.A.T.O. came under the command of the Supreme Allied Commander at a ceremony at Marburg. The three divisions are of Panzer Grenadier type, equipped with light armour.

A transport squadron of the new *Luftwaffe*, equipped with French aircraft, was made available to N.A.T.O. on 24th August.

GREAT BRITAIN

Strength of the Armed Forces

On 19th August the Ministry of Defence issued a statement showing that the strength of the U.K.'s active armed forces on 30th June, 1957, was 702,100 officers and men compared with 761,200 on 30th June, 1956. Details (figures for 30th June, 1956, in brackets) were as follows :—

Royal Navy and Royal Marines.—14,000 officers (14,500) and 99,800 ratings (105,400), including 200 W.R.N.S. officers and 3,100 W.R.N.S. ratings.

Army.—32,000 officers (34,300), and 335,200 other ranks (365,100), including 400 W.R.A.C. officers and 4,000 W.R.A.C. other ranks.

Royal Air Force.—26,500 officers (26,700) and 194,600 other ranks (215,200), including 400 W.R.A.F. officers and 4,300 W.R.A.F. other ranks.

These totals include 7,000 National Service officers (8,000) and 237,600 National Service men (275,500).

The total of Reserve and Auxiliary forces in the three Services was 591,500 (606,600), while civilian staffs directly employed totalled 252,500 (263,800).

Despatch

A Despatch submitted to the Minister of Defence in June, 1957, by General Sir Charles F. Keightley, G.C.B., G.B.E., D.S.O., C.-in-C., Allied Forces, in connection with the operations in Egypt, November to December, 1956, was published on 12th September as a Supplement to *The London Gazette* of 10th September, 1957.

Compensation for Premature Retirement

Full details are set out in a White Paper (Cmnd. 231, price 1s. 6d.) published on 24th July. Special tax-free capital payments will be made ranging up to £6,000 for colonels or equivalent, and up to £1,250 for other ranks, in addition to retired pay and terminal grants. Thus a captain of the Royal Navy retiring at 42 with 21 years' reckonable service could receive a capital payment of £6,000, a terminal grant of £2,400, and retired pay of £800 p.a.; while a group captain retiring at 45 after 24 years' reckonable service in the R.A.F. could receive a capital payment of £6,000, a terminal grant of £2,760, and retired pay of £920 p.a.

The rule under which retired pay and terminal grant are not awarded for service of less than 20 years will be waived so that proportionate rates can be paid for shorter periods down to 10 years. The age restriction for commuting retired pay will likewise be waived.

All permanently commissioned officers of the rank of brigadier (or equivalent) and below who retire in the ordinary way during the run down period of five years are to receive a special grant of £500, in recognition of the fact that they will have to compete with the prematurely retired for civilian employment.

MALAYA

Home Guards To Be Reduced

It was reported on 25th September that owing to the improvement in the emergency situation in Malaya it is proposed to reduce the Home Guards from 110,000 to 68,000 men.

FOREIGN

WEST GERMANY

Armed Forces Exercises

The first joint exercises of the West German armed forces began at Kassel on 24th September and lasted until 12th October. Some 35,000 men and 250 tanks took part.

JAPAN

Reduction of U.S. Forces

On 27th June, the U.S. Defence Secretary announced the withdrawal by the end of the year of 25,000—30,000 U.S. troops from Japan as a result of an agreement reached between President Eisenhower and Mr. Kishi, the Japanese Prime Minister, during discussions at Washington between 19th–30th June.

On 16th June the Japanese Defence Board announced that, under an agreement between the U.S. and Japanese authorities, five U.S. air bases and 24 radar stations in Japan would revert to Japanese control by 1960.

JORDAN

United States Aid

On 29th–30th June, it was announced in Washington and Amman that the Jordanian Army would be supplied by the U.S. Government with military equipment worth $10,000,000 and that a further grant of $10,000,000 had been made by the U.S. for economic aid to Jordan, in addition to a similar sum made available during April.

UNITED STATES

New Secretary of Defence.—On 7th August, President Eisenhower nominated Mr. Neil H. McElroy as Secretary of Defence in succession to Mr. Charles E. Wilson, who has resigned.

Reduction in Armed Forces.—A cut of 100,000 men in the U.S. armed forces within six months was approved by President Eisenhower on 16th July. The Navy lose 15,000 men, the Marine Corps 10,000, the Army 50,000 and the Air Force 25,000. The cut was based on this year's authorized strength of 2,800,000 men and women.

NAVY NOTES

GREAT BRITAIN

H.M. The Queen

Colour for Far East Station.—On 23rd September the Far East Station was presented with the Queen's Colour by the Governor, Sir Robert Black, at a ceremony at Singapore. He recalled that in 1925 King George V first approved that the King's Colours should be given to the Royal Navy and Commonwealth Navies, but the present Far East Station was then known as the China Station and it was thought improper to give a King's Colour to a station named after a foreign sovereign State. Now The Queen has given approval for a Colour to be given to this station.

Aides-de-Camp.—The following officers have been appointed Naval Aides-de-Camp to The Queen from 8th July, 1957, in succession to the officers stated :—

Captain P. W. Gretton, D.S.O., O.B.E., D.S.C., in succession to Captain H. F. Bone, D.S.O., D.S.C.

Commodore J. Y. Thompson, in succession to Captain E. C. Bayldon, D.S.C.

Captain H. C. D. MacLean, D.S.O., in succession to Captain B. E. W. Logan.

Captain W. L. M. Brown, D.S.O., O.B.E., D.S.C., in succession to Rear-Admiral W. Evershed, D.S.O.

Captain R. G. Mills, D.S.O., D.S.C., in succession to Captain G. T. Lambert, D.S.C.

Captain F. R. Main, in succession to Captain R. B. Honnywill.

Commodore C. E. Keys, in succession to Captain J. N. Hicks, D.S.C.

Captain V. J. H. Van Der Byl, D.S.C., in succession to Rear-Admiral H. C. N. Rolfe.

Captain H. R. Harold, O.B.E., in succession to Rear-Admiral J. K. Highton, C.B.E.

The following officer has been appointed Naval Aide-de-Camp from 31st July, 1957 :—

Captain S. A. MacGregor, O.B.E., in succession to Captain W. G. Pulvertaft, O.B.E.

The following officer has been appointed a Royal Naval Volunteer Reserve Aide-de-Camp to The Queen from 15th September, 1957 :—Captain C. H. Homan, D.S.C., V.R.D., R.N.V.R., in succession to Captain W. Lambert, V.R.D., D.L., R.N.V.R.

King Haakon of Norway.—At the funeral in Oslo on 1st October of King Haakon VII of Norway, the senior Honorary Admiral in Her Majesty's Fleet, the Board of Admiralty was represented by Admiral of the Fleet Lord Fraser of North Cape. Lord Fraser flew his Union flag in the aircraft carrier *Ocean* at Portsmouth for the passage to and from Oslo.

Flag Appointments

Home Fleet.—Admiral Sir William W. Davis, K.C.B., D.S.O., to be Commander-in-Chief, Home Fleet, in succession to Admiral Sir John A. S. Eccles, K.C.B., K.C.V.O., C.B.E. (January, 1958).

D.C.N.S.—Vice-Admiral M. L. Power, C.B., C.B.E., D.S.O., to be a Lord Commissioner of the Admiralty, Deputy Chief of Naval Staff and Fifth Sea Lord, in succession to Vice-Admiral A. N. C. Bingley, C.B., O.B.E. (October, 1957).

A.C.N.S.(W.).—Rear-Admiral H. C. N. Rolfe to be Assistant Chief of Naval Staff (Warfare), in succession to Rear-Admiral W. J. Yendell, C.B. (July, 1957).

Royal Yachts.—Rear-Admiral P. Dawnay, M.V.O., D.S.C., to be Flag Officer Royal Yachts, in succession to Vice-Admiral Sir E. M. Conolly Abel Smith, K.C.V.O., C.B. (January, 1958).

Portsmouth Dockyard.—Rear-Admiral J. H. Unwin, D.S.C., to be Admiral Superintendent, H.M. Dockyard, Portsmouth, in succession to Vice-Admiral J. S. C. Salter, C.B., D.S.O., O.B.E. (October, 1957).

Submarines.—Rear-Admiral B. W. Taylor, D.S.C., to be Flag Officer, Submarines, in succession to Rear-Admiral W. J. W. Woods, C.B., D.S.O. (November, 1957).

DEPUTY SACLANT.—Rear-Admiral W. J. W. Woods, C.B., D.S.O., to be Deputy Supreme Allied Commander Atlantic, in succession to Vice-Admiral Sir John Eaton, K.B.E., C.B., D.S.O., D.S.C. (January, 1958).

ROSYTH DOCKYARD.—Rear-Admiral W. Evershed, D.S.O., to be Admiral Superintendent, H.M. Dockyard, Rosyth, in succession to Rear-Admiral P. D. H. R. Pelly, D.S.O. (November, 1957).

DEPUTY E.IN-C.—Captain W. F. B. Lane, D.S.C., to *President* additional for duty inside Admiralty with Engineer-in-Chief, Bath (23rd August, 1957), and to be Deputy Engineer-in-Chief, in succession to Rear-Admiral N. E. Dalton, C.B., O.B.E. (26th August, 1957). Captain Lane to serve in the acting rank of Rear-Admiral on taking up these appointments; his promotion to the confirmed rank of Rear-Admiral with effect from 23rd September, 1957, was announced on 8th July.

DEVONPORT DOCKYARD.—Rear-Admiral L. A. B. Peile, C.B., D.S.O., M.V.O., to be Admiral Superintendent, H.M. Dockyard, Devonport, in succession to Vice-Admiral L. N. Brownfield, C.B., C.B.E. (November, 1957).

DOCKYARD DEPARTMENT.—Rear-Admiral N. E. H. Clarke to be Deputy Director of Dockyards (Administration), in succession to Rear-Admiral L. A. B. Peile, C.B., D.S.O., M.V.O. (October, 1957).

SUPPLY OFFICER, PORTSMOUTH.—Rear-Admiral R. W. Paffard, C.B.E., to *Victory* additional as Command Supply Officer, Portsmouth, in succession to Rear-Admiral R. A. Braine, C.B. (6th August, 1957).

MEDICAL OFFICER, PLYMOUTH.—Surgeon Captain D. M. Beaton, O.B.E., to be promoted Surgeon Rear-Admiral (23rd October, 1957), and appointed for duty on the Staff of the Commander-in-Chief, Plymouth, as Command Medical Officer, and Medical Officer in charge of the Royal Naval Hospital, Plymouth, in succession to Surgeon Rear-Admiral A. A. Pomfret, C.B., O.B.E. (30th October, 1957).

RETIREMENTS

Rear-Admiral J. D. N. Ham, C.B., placed on the Retired List (8th July, 1957); Rear-Admiral J. E. Cooke, C.B., placed on the Retired List (29th July, 1957); Vice-Admiral Sir Maurice H. Elliott, K.C.B., C.B.E., placed on the Retired List (4th August, 1957); Rear-Admiral R. A. Braine, C.B., placed on the Retired List (6th August, 1957); Rear-Admiral W. G. Brittain, C.B., C.B.E., placed on the Retired List (23rd August, 1957); Rear-Admiral W. J. Yendell, C.B., placed on the Retired List (31st August, 1957); Vice-Admiral Sir Frank T. Mason, K.C.B., placed on the Retired List (23rd September, 1957).

EXERCISES AND CRUISES

"STRIKE BACK."—Ships of the Home Fleet engaged in the Autumn cruise and exercises were more numerous than those assembled in recent years. The principal exercise, known as "Strike Back," took place from 17th to 28th September in the north-east Atlantic area. Over 35,000 men (including 12,000 British), 100 ships, and nearly 700 aircraft of the N.A.T.O. countries took part, and the operations extended from within the Arctic Circle to points near the Equator. With the Fleet during "Strike Back" was a strong carrier force under the Flag Officer Aircraft Carriers, Vice-Admiral M. L. Power, consisting of the *Ark Royal*, *Eagle*, *Bulwark*, and *Albion*.

"STAND FIRM."—Simultaneously, navies of the four Channel countries joined in the N.A.T.O. exercise "Stand Firm," designed to test the control and protection of merchant shipping in and around the main British and Channel ports at the outbreak of hostilities. This exercise was held from 18th to 28th September, and Federal German naval forces were among those taking part. Nearly 300 merchant ships from France, the Netherlands, and the United Kingdom co-operated as 'targets' for attacks. The exercise was under the overall direction of the Allied Commander-in-Chief, Channel, Admiral Sir Guy Grantham, and Air Marshal Sir Bryan Reynolds.

ADMIRALS' COMMENTS.—Speaking in London on the conclusion of a further N.A.T.O. exercise, " Sea Watch," Admiral Sir John Eccles said on 27th September: " My own conclusion is that we have not got anything like enough forces with which to carry out our primary task, either in the air, under the sea, or on the sea. We are desperately short of all the hardware needed to fight this battle. . . . To enter a war with the forces I have at my disposal at the moment, I do not want to put it too strongly, but I would say we are running a very, very grave risk."

On 28th September, Admiral Jerauld Wright, U.S.N., N.A.T.O. Supreme Allied Commander, Atlantic, said that he fully supported the criticism of forces available made by Admiral Eccles. He said: " It is perfectly easy to draw the conclusion of inadequacy of forces because of their position in this focal area here in the ' front line trenches.' The eastern Atlantic area is the focal area that initially Soviet submarines would come through in the Atlantic." After a conference with Admiral Walter F. Boone, N.A.T.O. Supplies Commander, he said: " The exercise has demonstrated our deficiencies and shown us the areas where our forces could be greatly improved. There are serious shortages in modern devices against submarine attack. There are shortages of aircraft for air defence against submarines. There are also shortages of mine warfare equipment. The shortages are accentuated in this area because most of our forces are deployed in the western Atlantic. The question whether these forces can be redeployed in the eastern Atlantic is a matter for governments to decide. But I believe the various nations will do whatever they can."

MEDITERRANEAN.—British, Italian, and American naval forces took part in a combined amphibious assault exercise in Sardinia on 20th and 21st July, Operation " Combine," in which 600 Royal Marine Commandos and 1,700 United States Marines were included. Rear-Admiral W. K. Romoser, U.S.N., commanded the Amphibious Task Force and Rear-Admiral Sir Charles Madden the British forces. A second N.A.T.O. amphibious exercise, Operation " Deepwater," was held between 24th and 28th September in the Gallipoli peninsula.

MATERIEL

H.M.S. " JAGUAR " LAUNCHED.—Princess Alexandra of Kent named H.M.S. *Jaguar*, fourth of the " Leopard " class of anti-aircraft frigates, at the launch at the Dumbarton yard of Messrs. William Denny and Brothers on 30th July. The *Jaguar* is 340 feet long, with a beam of 40 feet, and will be armed with four 4.5-inch guns, two smaller guns, and a Squid anti-submarine mortar. Designed primarily for the protection of convoys against aircraft, these A/A frigates will also serve as a smaller type of destroyer in offensive operations.

H.M.S. " TROUBRIDGE " CONVERSION.—Following her conversion to a Type 15 anti-submarine frigate by Messrs. J. S. White and Co., Cowes, H.M.S. *Troubridge* began a general service commission for the Home and America and West Indies Stations on 9th July. She was completed as a destroyer on the Clyde in 1943, and during the next two years served in the Mediterranean and Far East. She once spent 93 continuous days at sea—a record for a destroyer.

H.M.S. " BLACKWOOD " COMMISSIONED.—With the provisional acceptance on 22nd August of H.M.S. *Blackwood*, built by Messrs. J. I. Thornycroft and Co., Southampton, eight anti-submarine frigates of her class are now in service.

NAVAL SERVICING CRAFT.—The Admiralty has approved a scheme of pooling servicing craft, including tugs, launches, pinnaces, barges, and lighters, in order to achieve economy in the number of craft required and in their operation, maintenance, and repair. Control of these craft is at present divided at each major port among the various authorities who use them. The craft will be known in future as Port Auxiliaries. The dredging fleet, mainly because of the distinctive conditions of service of their crews, will not be included in the pooling scheme. Specialized craft, such as ammunition lighters, water boats, and fuel lighters, will continue to be operated by the respective user departments, but will use the centralized repair and maintenance facilities.

Fleet Air Arm

Farnborough Show.—For the first time, the Fleet Air Arm participated in the flying display at the Farnborough Air Show between 2nd and 8th September. It was represented by 12 turbo-prop Gannet anti-submarine aircraft and five Sea Hawk jet interceptor fighters. In lighter vein, Whirlwind helicopters demonstrated their own way of performing a square dance.

Women's Royal Naval Service

New Director.—Superintendent E. L. E. Hoyer-Millar, O.B.E., has been appointed Director of the Women's Royal Naval Service, in succession to Commandant Dame Nancy M. Robertson, D.B.E., Hon. A.D.C., to take effect in April, 1958. Superintendent Hoyer-Millar has been Superintendent of H.M.S. *Dauntless*, the W.R.N.S. training and drafting establishment at Burghfield, near Reading, since December, 1954.

Royal Marines

Promotion.—Lieutenant-General Sir Campbell R. Hardy, K.C.B., C.B.E., D.S.O., promoted to General (22nd August, 1957).

CANADA

North-West Passage Discovery

It was announced in Ottawa on 27th August that H.M.C.S. *Labrador* had found a deep water passage through the Bellot Strait, thus opening a north-west passage for large ships between Somerset Island and the Boothia peninsula, some 400 miles north of the Arctic Circle. Relics of H.M.S. *Fury*, which was caught in the ice on 5th August, 1825, and abandoned, were found by officers from the *Labrador*, whose helicopter landed on Fury beach when a large anchor was sighted from the air. Near by were found five other anchors, two cannon, a pile of chain cable, some ice saws, and 11 cannon balls, and a selection was made for the Arctic section of the Maritime Museum in Halifax.

Three American Coastguard vessels co-operated in this search for a deep water passage, which was undertaken to facilitate the supply of the distant early warning (D.E.W.) line, a network of radar installations stretching in a 3,000-mile arc across the Far North.

INDIA

Transfer of H.M.S. "Nigeria"

The cruiser *Nigeria* was officially handed over to the Indian Navy on 29th August at Birkenhead by the First Lord of the Admiralty, Lord Selkirk, and accepted by the High Commissioner for India, Mrs. V. L. Pandit. The vessel was renamed I.N.S. *Mysore*.

PAKISTAN

Transfer of H.M.S. "Diadem"

The cruiser *Diadem* was officially handed over to the Pakistan Navy on 5th July at Portsmouth Dockyard by the First Lord of the Admiralty and accepted by the High Commissioner for Pakistan, Mr. Mohammed Ikramullah. The vessel was renamed P.N.S. *Babur*. The cruiser arrived at Lisbon on 1st September on her way out, and reached Karachi on 25th September, her arrival being celebrated by a public holiday.

FOREIGN

JAPAN

Death of Admiral Toyoda

Admiral Soemu Toyoda, Chief of the Japanese Naval Staff during the latter part of the second World War, died at Tokyo on 22nd September at the age of 72. He was Chief of the Naval Technical Department in 1939 and in September, 1941, took command of the naval station at Kure. From May, 1943, he commanded the naval base at Yokosuka,

and after the death of Admiral Koga in a flying boat accident on 31st March, 1944, he succeeded him as Commander-in-Chief of the Combined Fleet. He was responsible for planning the operations which culminated in the decisive Battle of Leyte Gulf in October, 1944.

TURKEY

British Destroyers

An agreement was signed in Ankara on 16th August for the transfer to Turkey of four British destroyers, the *Milne*, *Matchless*, *Meteor*, and *Marne*. Completed in 1941–42, these ships are armed with six 4.7-inch guns and smaller weapons. The *Matchless* was in the destroyer force which attacked the *Scharnhorst* shortly before that vessel was sunk in December, 1943.

UNITED STATES

U.S.S. "Constellation" Laid Down.—The keel was laid at the Navy Yard, Brooklyn, on 14th September, of the aircraft carrier *Constellation*, the last of the "Forrestal" class to use conventional power. Future carriers will be propelled by atomic engines. When completed in 1960 the *Constellation* should be the longest ship in the world, 1,047 feet 6 inches. Her displacement will be about 60,000 tons, and she will be able to carry 100 aircraft and a crew of 3,000. The cost is estimated at 150m. dollars (£54 m.).

Atomic Submarines.—The fourth American nuclear-powered submarine, the *Swordfish*, was launched at Portsmouth, New Hampshire, on 27th August. The fifth, the *Sargo*, was due for launching on 10th October. The first atomic submarine, *Nautilus*, visited Portland, England, at the beginning of October with other United States warships after a N.A.T.O. exercise.

Sixth Fleet Guided Missiles.—Speaking at a Press conference on board his flagship *Salem* in Phaleron Bay on 14th September, Admiral Charles Brown, Commander-in-Chief of the Sixth Fleet, said that his fleet had been equipped with guided missiles that could be fired from submarines. The guided missile cruiser *Canberra* was expected to join the fleet soon.

ARMY NOTES

GREAT BRITAIN

H.M. The Queen

The Queen visited The Royal Scots Greys (2nd Dragoons), 16th/5th The Queen's Royal Lancers, and the 7th Royal Tank Regiment, of which Regiments Her Majesty is Colonel-in-Chief, at Catterick Camp on 10th July.

The Queen presented new Colours to the 1st, 4th, and 7th Battalions, The Cheshire Regiment, at Chester on 11th July.

The Duke of Edinburgh visited the Royal Signals Wing, Royal Corps of Signals, at Catterick Camp on 10th July.

The Princess Royal, Colonel-in-Chief, Royal Corps of Signals, visited 1 Northern Command (M) Signal Regiment, T.A., in camp at Blackfell Camp, Washington, Co. Durham, on 16th July.

The Princess Royal, Controller Commandant, Women's Royal Army Corps, was present at the dedication of the Corps Chapel at the W.R.A.C. Depot, Guildford, on 28th July.

The Princess Royal visited the Royal Military Academy, Sandhurst, on 1st August and took the Salute at The Sovereign's Parade.

The Queen has been graciously pleased to approve the following appointments :—

To be Aides-de-Camp to The Queen.—Brigadier W. J. Cardale, O.B.E. (21st April, 1957), vice Brigadier L. F. Heard, C.B.E., retired ; Brigadier S. A. Stewart, C.B.E., A.M.I.C.E., M.I.Struct.E. (11th May, 1957), vice Major-General C. R. Price, C.B., C.B.E., B.A., B.Sc., promoted ; Brigadier A. R. Purches, C.B.E., A.M.I.Mech.E. (27th August, 1957), vice Brigadier E. Dynes, C.B.E., A.M.I.Mech.E., retired.

To be Honorary Chaplain to The Queen.—The Reverend C. G. Gregory, M.A., Chaplain to the Forces, 1st Class, R.A.Ch.D. (28th June, 1957).

To be Honorary Surgeons to The Queen.—Major-General F. McL. Richardson, D.S.O., O.B.E., M.D. (25th July, 1957), vice Major-General C. W. Greenway, C.B., C.B.E., M.R.C.S., L.R.C.P., retired ; Colonel A. H. Charles, T.D., M.B., F.R.C.S. (31st July, 1957), vice Brigadier W. R. Ward, T.D., M.B., B.S., M.R.C.S., transferred to T.A. Reserve of Officers.

To be Lieutenant H.M. Tower of London.—Lieut.-General Sir Euan A. B. Miller, K.C.B., K.B.E., D.S.O., M.C. (3rd August, 1957), vice Lieut.-General Sir Oliver W. H. Leese, Bart., K.C.B., C.B.E., D.S.O., tenure expired.

To be Colonels Commandant.—Of the Royal Armoured Corps, Royal Tank Regiment Wing, General Sir John T. Crocker, G.C.B., K.B.E., D.S.O., M.C. (1st September, 1957), vice Field-Marshal the Viscount Montgomery of Alamein, K.G., G.C.B., D.S.O., resigned ; of the Royal Regiment of Artillery, Major-General K. F. M. Lewis, C.B., D.S.O., M.C. (17th July, 1957), vice General Sir Sidney C. Kirkman, G.C.B., K.B.E., M.C., tenure expired ; of the Corps of Royal Electrical and Mechanical Engineers, Major-General W. A. Lord, C.B., C.B.E., M.Eng., M.I.Mech.E., M.I.E.E. (19th August, 1957), vice Major-General W. S. Tope, C.B., C.B.E., M.I.Mech.E., M.I.E.E., tenure expired.

To be Colonels of Regiments.—Of the 11th Hussars (Prince Albert's Own), Major (Honorary Lieut.-Colonel) A. T. Smail, D.S.O. (12th July, 1957), vice Major-General J. F. B. Combe, C.B., D.S.O., tenure expired ; of The King's Own Royal Regiment (Lancaster), Major-General R. N. Anderson, C.B., C.B.E., D.S.O. (1st September, 1957), vice Lieut.-Colonel (Honorary Brigadier) J. H. Hardy, C.B.E., M.C., tenure expired.

Appointments

Commonwealth Relations Office.—Lieut.-General Sir William P. Oliver, K.C.B., O.B.E., appointed Principal Staff Officer to the Secretary of State for Commonwealth Relations (Autumn, 1957).

Ministry of Supply.—Major-General J. G. Cowley, C.B., C.B.E., A.M., appointed Controller of Munitions, Ministry of Supply, with the temporary rank of Lieut.-General (1st October, 1957).

War Office.—Major-General R. C. Cottrell-Hill, C.B., C.B.E., D.S.O., M.C., appointed President, Special Board (15th July, 1957), and President Regular Commissions Board (November, 1957).

United Kingdom.—Brigadier R. E. Goodwin, C.B.E., D.S.O., appointed G.O.C., North Midland District and 49th Infantry Division, T.A., with the temporary rank of Major-General (December, 1957).

Far East Land Forces.—Major-General W. G. H. Pike, C.B., C.B.E., D.S.O., appointed Chief of Staff, General Headquarters, Far East Land Forces (October, 1957).

Malaya.—Lieut.-General Sir A. James H. Cassels, K.B.E., C.B., D.S.O., appointed Director of Emergency Operations, Federation of Malaya (17th September, 1957).

S.H.A.P.E.—Major-General E. K. G. Sixsmith, C.B., C.B.E., appointed Assistant Chief of Staff (Organization and Training) (November, 1957).

Promotions

Generals.—Lieut.-Generals to be Generals :—Sir Hugh C. Stockwell, K.C.B., K.B.E., D.S.O. (20th March, 1957) ; Sir Geoffrey K. Bourne, K.C.B., K.B.E., C.M.G. (26th August, 1957).

Lieut.-Generals.—Temporary Lieut.-Generals to be Lieut.-Generals :—R. W. Goodbody, C.B., D.S.O. (8th May, 1957) ; Sir Edric M. Bastyan, K.B.E., C.B. (5th June, 1957).

Major-General to be temporary Lieut.-General :—J. G. Cowley, C.B., C.B.E., A.M. (1st October, 1957).

Major-Generals.—Temporary Major-Generals or Brigadiers to be Major-Generals :—A. G. V. Paley, C.B., D.S.O., A.D.C. (12th May, 1957) ; F. H. Brooke, C.B.E., D.S.O. (23rd May, 1957) ; R. F. Johnstone, C.B.E. (28th May, 1957) ; W. H. Hulton-Harrop, D.S.O. (3rd June, 1957) ; H. C. W. Eking, C.B.E., D.S.O. (5th June, 1957) ; A. E. Brocklehurst, C.B., D.S.O. (27th June, 1957) ; L. F. de V. Carey, C.B.E. (29th June, 1957) ; D. A. Kendrew, C.B.E., D.S.O. (29th June, 1957) ; T. F. M. Woods, O.B.E., M.D., M.R.C.P.(I) (25th July, 1957) ; L. H. Howard-Jones, C.B.E., B.Sc., M.I.Mech.E. (26th July, 1957) ; S. Moore-Coulson, E.R.D. (5th August, 1957) ; R. B. F. K. Goldsmith, C.B., C.B.E. (12th August, 1957) ; W. F. R. Turner, D.S.O. (12th August, 1957) G. Kellett, C.B.E. (3rd September, 1957) ; D. D. S. O'Connor, C.B.E. (9th September, 1957)

Brigadiers or Colonels to be temporary Major-Generals :—A. F. J. Elmslie, C.B.E. A.M.I.Mech.E. (15th July, 1957) ; G. Peddie, D.S.O., M.B.E. (6th August, 1957) H. A. Borradaile, D.S.O. (1st October, 1957).

Retirements

The following General Officers have retired :—Major-General C. W. Greenway, C.B. C.B.E., Q.H.S., M.R.C.S., L.R.C.P. (25th July, 1957) ; Major-General W. A. Lord, C.B. C.B.E., M.Eng., M.I.Mech.E., M.I.E.E. (26th July, 1957) ; Major-General W. S. Beddall, C.B., O.B.E. (5th August, 1957) ; Major-General G. F. Johnson, C.B., C.B.E., D.S.O. (12th August, 1957) ; Major-General G. A. Bond, C.B., C.B.E., A.M.I.Mech.E. (12 th August, 1957) ; Major-General Sir George F. J. Johnson, K.C.V.O., C.B., C.B.E., D.S. O. (12th August, 1957) ; General Sir Charles F. Keightley, G.C.B., G.B.E., D.S. O.

(26th August, 1957); Major-General C. J. G. Dalton, C.B., C.B.E. (3rd September, 1957); Major-General E. R. Benson, C.B., C.M.G., C.B.E. (9th September, 1957); Major-General M. S. Wheatley, C.B., C.B.E., M.I.E.E. (30th September, 1957); Major-General B. A. Coad, C.B., C.B.E., D.S.O. (1st October, 1957).

Battle Honours

The following is the fourth list of Battle Honours approved by The Queen for the 1939–45 War. The Battle Honours selected to be borne on Colours and Appointments are shown in bold print.

The Queen's Bays (2nd Dragoon Guards).—"**Somme, 1940,**" "Withdrawal to Seine," "North-West Europe, 1940," "Msus," "**Gazala,**" "Bir el Aslagh," "Cauldron," "Knightsbridge," "Via Balbia," "Mersa Matruh," "**El Alamein,**" "Tebaga Gap," "**El Hamma,**" "El Kourzia," "Djebel Kournine," "**Tunis,**" "Creteville Pass," "**North Africa, 1941–43,**" "**Coriano,**" "Carpineta," "**Lamone Crossing,**" "Lamone Bridgehead," "**Rimini Line,**" "Ceriano Ridge," "Cesena," "**Argenta Gap,**" "Italy, 1944–45."

13th/18th Royal Hussars (Queen Mary's Own).—"Dyle," "Withdrawal to Escaut," "**Ypres–Comines Canal,**" "**Normandy Landing,**" "Breville," "**Caen,**" "Bourguebus Ridge," "**Mont Pincon,**" "St. Pierre La Vielle," "**Geilenkirchen,**" "**Roer,**" "**Rhineland,**" "Waal Flats," "**Goch,**" "Rhine," "Bremen," "**North-West Europe, 1940, '44–45.**"

The Shropshire Yeomanry, R.A.C., T.A.—*Honorary Distinction:* A Badge of the Royal Regiment of Artillery with year-dates "1943–45" and scrolls: "Sicily," "Italy."

The Leicestershire Yeomanry (Prince Albert's Own), R.A.C., T.A.—*Honorary Distinction:* A Badge of the Royal Regiment of Artillery with year-dates "1942, '44–45" and scrolls: "North-West Europe," "North Africa," "Italy."

3rd/4th County of London Yeomanry (Sharpshooters), R.A.C., T.A.—"Villers Bocage," "Odon," "Defence of Rauray," "**Caen,**" "Bourguebus Ridge," "Falaise," "Lower Maas," "Rhineland," "Hochwald," "**Rhine,**" "Aller," "**North-West Europe, 1944–45,**" "Tobruk, 1941," "Gubi I," "Gabr Saleh," "**Sidi Rezegh, 1941,**" "Chor es Sufan," "Gazala," "Cauldron," "Hagiag er Raml," "Mersa Matruh," "Minqar Qaim," "Defence of Alamein Line," "Deir el Shein," "Ruweisat," "Point 39," "Ruweisat Ridge," "**Alam el Halfa,**" "**El Alamein,**" "Akarit," "Djebel Roumana," "**Tunis,**" "North Africa, 1941–43," "Landing in Sicily," "Lentini," "Simeto Bridgehead," "**Sicily, 1943,**" "Termoli," "**Sangro,**" "Fossacesia," "Volturno Crossing," "**Italy, 1943.**"

The East Riding Yeomanry, R.A.C., T.A.—"Withdrawal to Escaut," "**St. Omer-la Bassee,**" "**Cassel,**" "**Normandy Landing,**" "**Cambes,**" "**Caen,**" "**Bourguebus Ridge,**" "La Vie Crossing," "**Lisieux,**" "Foret de Bretonne," "**Lower Maas,**" "**Venlo Pocket,**" "Ourthe," "**Rhine,**" "North-West Europe, 1940, '44–45."

The Inns of Court Regiment, R.A.C., T.A.—"**Normandy Landing,**" "**Caen,**" "**Bourguebus Ridge,**" "Cagny," "**Catheolles,**" "**Amiens, 1944,**" "**Antwerp,**" "Hechtel," "**Rhine,**" "**Leese,**" "**Aller,**" "**North-West Europe, 1944–45.**"

Honourable Artillery Company, T.A.—"Bourguebus Ridge," "Antwerp," "Le Havre," "**Rhine,**" "**North-West Europe, 1944–45,**" "**Knightsbridge,**" "**El Alamein,**" "**El Hamma,**" "Sbiba," "**Thala,**" "**Tunis,**" "North Africa, 1941–43," "**Sicily, 1943,**" "**Cassino II,**" "**Coriano,**" "Senio," "Italy, 1944–45."

The Royal Warwickshire Regiment.—"**Defence of Escaut,**" "**Wormhoudt,**" "**Ypres-Comines Canal,**" "**Normandy Landing,**" "**Caen,**" "Bourguebus Ridge," "**Mont Pincon,**" "Falaise," "**Venraij,**" "Rhineland," "Lingen," "Brinkum," "**Bremen,**" "**North-West Europe, 1940, '44–45,**" "**Burma. 1945.**"

THE ROYAL FUSILIERS (CITY OF LONDON REGIMENT).—" **Dunkirk, 1940,**" " North-West Europe, 1940," " Agordat," " **Keren,**" " Syria, 1941," " Sidi Barrani," " Djebel Tebaga," " Peters Corner," " **North Africa, 1940, '43,**" " Sangro," " **Mozzagrogna,**" " Caldari," " **Salerno,**" " St. Lucia," " Battipaglia," " Teano," " Monte Camino," " **Garigliano Crossing,**" " Damiano," " **Anzio,**" " **Cassino II,**" " Ripa Ridge," " Gabbiano," " Advance to Florence," " Monte Scalari," " **Gothic Line,**" " **Coriano,**" " Croce," " Casa Fortis," " Savio Bridgehead," " Valli di Commacchio," " Senio," " Argenta Gap," " Italy, 1943–45," " Athens," " Greece, 1944–45."

THE KING'S REGIMENT (LIVERPOOL).—" **Normandy Landing,**" " North-West Europe, 1944," " **Cassino II,**" " **Trasimene Line,**" " **Tuori,**" " **Capture of Forli,**" " **Rimini Line,**" " Italy, 1944–45," " **Athens,**" " Greece, 1944–45," " **Chindits, 1943,**" " **Chindits, 1944,**" " Burma, 1943–44."

THE GLOUCESTERSHIRE REGIMENT.—" **Defence of Escaut,**" " St. Omer-La Bassee," " Wormhoudt," " **Cassel,**" " Villers Bocage," " **Mont Pincon,**" " **Falaise,**" " Risle Crossing," " Le Havre," " Zetten," " **North-West Europe, 1940, '44–45,**" " **Taukyan,**" " **Paungde,**" " Monywa, 1942," " North Arakan," " Mayu Tunnels," " **Pinwe,**" " Shweli," " **Myitson,**" " **Burma, 1942, '44–45.**" *Honorary Distinction* (5th Battalion) : A Badge of the Reconnaissance Corps with year-dates " 1944–45 " and scroll : " North-West Europe."

THE EAST LANCASHIRE REGIMENT.—" Defence of Escaut," " **Dunkirk, 1940,**" " Caen," " **Falaise,**" " Nederrijn," " **Lower Maas,**" " **Ourthe,**" " Rhineland," " **Reichswald,**" " **Weeze,**" " Rhine," " Ibbenburen," " **Aller,**" " North-West Europe, 1940, '44–45," " **Madagascar,**" " North Arakan," " **Pinwe,**" " **Burma, 1944–45.**"

THE GLIDER PILOT REGIMENT.—" **Normandy Landing,**" " **Pegasus Bridge,**" " **Merville Battery,**" " **Arnhem, 1944,**" " **Rhine,**" " **Southern France,**" " **North-West Europe, 1944–45,**" " **Landing in Sicily,**" " **Sicily, 1943.**"

ARMY REORGANIZATION

A White Paper entitled " The Future Organization of the Army " (Cmd. 230, price 6d.), published on 24th July, gives particulars of the reorganization and reductions to be made in the Army.

In considering the method of reduction and choosing the units to be affected the Army Council have decided that where the primary loyalty is to the corps, as in the Royal Artillery and Royal Engineers, to proceed by way of disbandment, thus affecting as few units as possible, and where the primary loyalty is to the regiment to proceed by amalgamation, thus perpetuating the regimental spirit and traditions.

The reorganization and reductions will be carried out in two phases. The bulk of the cut in the fighting arms will be completed in Phase I, by the end of 1959. The rest will be completed in Phase II, by the end of 1962.

The reorganized Infantry of the Line will be grouped into 14 brigades and The Parachute Regiment. All regiments in a brigade will wear the same cap badge. Each brigade will have one band serving all battalions in the brigade, but regiments will keep their own drum, pipe, or bugle bands. There will be one depot for each brigade at which recruits will be trained, but regiments will retain a small regimental depot for recruiting and the conduct of regimental affairs, amalgamated regiments having only one depot for this purpose. Officer cadets will continue to be gazetted from Sandhurst into a regiment, but all majors and lieutenant-colonels will be placed, for the purposes of promotion, on a common brigade list.

Colonels of Regiments are being consulted by the Army Council regarding the nomenclature and insignia of the amalgamated regiments and of the brigades.

No reduction will be made in The Parachute Regiment.

Territorial Army battalions of regiments to be amalgamated will retain their identity and their existing titles.

Details of amalgamations, reductions, and brigading are as follows :—

Royal Armoured Corps

Phase I

Amalgamations.—1st King's Dragoon Guards and The Queen's Bays (2nd Dragoon Guards). 3rd The King's Own Hussars and 7th Queen's Own Hussars. 4th Queen's Own Hussars and 8th King's Royal Irish Hussars. 3rd Royal Tank Regiment and 6th Royal Tank Regiment. 4th Royal Tank Regiment and 7th Royal Tank Regiment. 5th Royal Tank Regiment and 8th Royal Tank Regiment.

Royal Artillery

The Royal Artillery will be reduced by 18 regiments and minor units to the equivalent of another regiment in Phase I and by a further two regiments in Phase II.

Royal Engineers

The Royal Engineers will be reduced by the equivalent of four engineer regiments in Phase I and of one regiment in Phase II. There will be a consequential reduction in engineer supporting units.

Royal Corps of Signals

The number of regiments in the Royal Corps of Signals will be reduced when the command structure of the Army at home and abroad has been reorganized.

Infantry : Brigade of Guards

The Brigade of Guards will be reduced by one battalion in each phase—the 3rd Battalion, Coldstream Guards, in Phase I and the 3rd Battalion, Grenadier Guards, in Phase II.

Infantry of the Line

Brigade	Composition	Phase I or II
Lowland	The Royal Scots (The Royal Regiment).	
	Regiment to be formed from the Royal Scots Fusiliers and The Highland Light Infantry (City of Glasgow Regiment).	I
	The King's Own Scottish Borderers.	
	The Cameronians (Scottish Rifles).	
Home Counties ...	Regiment to be formed from The Queen's Royal Regiment (West Surrey) and The East Surrey Regiment.	I
	Regiment to be formed from The Buffs (Royal East Kent Regiment) and The Queen's Own Royal West Kent Regiment.	II
	The Royal Sussex Regiment.	
	The Middlesex Regiment (Duke of Cambridge's Own).	
Lancastrian ...	Regiment to be formed from The King's Own Royal Regiment (Lancaster) and The Border Regiment.	I
	Regiment to be formed from The King's Regiment (Liverpool) and The Manchester Regiment.	I
	Regiment to be formed from The East Lancashire Regiment and The South Lancashire Regiment (The Prince of Wales's Volunteers).	I
	The Loyal Regiment (North Lancashire).	
Fusilier	The Royal Northumberland Fusiliers.	
	The Royal Fusiliers (City of London Regiment).	
	The Lancashire Fusiliers.	
Midland	The Royal Warwickshire Regiment.	
	The Royal Leicestershire Regiment.	
	The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment).	

Brigade	Composition	Phase I or II
East Anglian ...	Regiment to be formed from The Royal Norfolk Regiment and The Suffolk Regiment.	I
	Regiment to be formed from The Royal Lincolnshire Regiment and The Northamptonshire Regiment.	II
	Regiment to be formed from The Bedfordshire and Hertfordshire Regiment and The Essex Regiment.	I
Wessex	Regiment to be formed from The Devonshire Regiment and The Dorset Regiment.	I
	The Gloucestershire Regiment.	
	The Royal Hampshire Regiment.	
	Regiment to be formed from The Royal Berkshire Regiment (Princess Charlotte of Wales's) and The Wiltshire Regiment (Duke of Edinburgh's).	I
Light Infantry ...	Regiment to be formed from The Somerset Light Infantry (Prince Albert's) and The Duke of Cornwall's Light Infantry.	I
	The King's Own Yorkshire Light Infantry.	
	The King's Shropshire Light Infantry.	
	The Durham Light Infantry.	
Yorkshire	Regiment to be formed from The West Yorkshire Regiment (The Prince of Wales's Own) and The East Yorkshire Regiment (The Duke of York's Own).	I
	The Green Howards (Alexandra, Princess of Wales's Own Yorkshire Regiment).	
	The Duke of Wellington's Regiment (West Riding).	
	The York and Lancaster Regiment.	
Mercian	The Cheshire Regiment.	
	The Worcestershire Regiment.	
	Regiment to be formed from The South Staffordshire Regiment and The North Staffordshire Regiment (The Prince of Wales's).	I
Welsh	The Royal Welch Fusiliers.	
	The South Wales Borderers.	
	The Welch Regiment.	
North Irish... ...	The Royal Inniskilling Fusiliers.	
	The Royal Ulster Rifles.	
	The Royal Irish Fusiliers (Princess Victoria's).	
Highland	The Black Watch (Royal Highland Regiment).	
	Regiment to be formed from Seaforth Highlanders (Rossshire Buffs, The Duke of Albany's) and The Queen's Own Cameron Highlanders.	II
	The Gordon Highlanders.	
	The Argyll and Sutherland Highlanders (Princess Louise's).	
Green Jackets ...	The Oxfordshire and Buckinghamshire Light Infantry.	
	The King's Royal Rifle Corps.	
	The Rifle Brigade (Prince Consort's Own).	
Parachute Regiment	1st Battalion The Parachute Regiment.	
	2nd Battalion The Parachute Regiment.	
	3rd Battalion The Parachute Regiment.	

Administrative Services

The reductions outlined above will have their counterpart in the administrative services, which will employ a larger proportion of civilians than hitherto.

Compensation for Premature Retirement

In a statement issued by the War Office on 2nd September in connection with premature retirement (see General Service Notes), it was pointed out that, owing to the time required by individuals in which to assess their own particular situation before declaring their wishes, by Resettlement Advisory Panels to advise on selection of careers in civil life, and by Selection Boards to complete their task, it is unlikely that those selected for retirement/discharge in 1958–59 will be notified before February, 1958.

Applications for retirement/discharge will not be limited to those regiments or units to be amalgamated or disbanded. As far as possible reductions will be spread equitably throughout the Arms/Corps where redundancy exists irrespective of regiment or unit.

The date for the completion of the long term requirement will be December, 1962.

Army Air Corps

The Army Air Corps came into being on 1st September, absorbing the Glider Pilot Regiment which was disbanded on the same date. The Corps is responsible for controlling and operating air observation and light liaison aircraft up to an all-up weight of 4,000 lb., the basic unit being the flight. First and second line servicing of these aircraft is carried out by R.E.M.E., but for the present the R.A.F. is continuing to do major repairs and is also training selected personnel from R.E.M.E.

Officer and other rank volunteers of all arms will be seconded to the Army Air Corps for flying duties for an initial tour of four years, and will be encouraged to return for a second tour of three years. Officers serving for a second tour will be allowed to volunteer for permanent service with the Corps. Personnel from the R.A., R. Signals, R.A.O.C., R.A.P.C., and A.C.C. will be attached to units of the Army Air Corps for special duties.

Regular Cadre for the Intelligence Corps

It was reported on 8th August that a permanent cadre of 100 Regular officers is being formed for the Intelligence Corps. This cadre will be found from three sources: by the voluntary transfer of selected Regular officers; by direct commissioning from Sandhurst; and by the grant of Regular commissions to selected officers with extended or short service commissions. Since it was reformed in 1940 the Intelligence Corps has had no Regular officers, apart from two quartermasters, and the officers with extended or short service commissions who have been doing the more specialized work in the Corps are now wasting out.

Second Guided Weapons Regiment Formed

No. 27 H.A.A. Regiment, R.A., recently returned from Hong Kong, is being converted into a guided missile regiment and has been re-named No. 27 Guided Weapon Regiment (Field), R.A.

Regular Army Recruiting

The Regular Army recruiting statistics for August show that the total number of enlistments from civil life during the month were 1,492 men and 91 junior leaders compared with 1,460 and 128 in June and 1,507 and 103 in July. The figures for re-enlistments were 3 from Short Service (June, 15; July, 6), and 169 from National Service (June, 215; July, 214).

44th Independent Parachute Brigade Group, T.A.

Some 2,200 officers and men (all volunteer Territorials) of the 44th Independent Parachute Brigade Group, T.A., attended annual camp training in August. Several hundred were dropped by the R.A.F. in the Stanford training area during a three-day exercise, the biggest airborne exercise in which Territorial troops have been engaged.

CANADA

PRESENTATION OF COLOURS.—The Governor-General, Mr. Vincent Massey, presented the Queen's Colour and Regimental Colour to the 1st Battalion, Canadian Guards, at their Regimental Depot at Camp Petawawa during the weekend 5th–6th October.

APPOINTMENTS.—Colonel W. A. Capelle has become Commander, Canadian Base Units, Middle East.

Lieut.-Colonel R. A. Campbell, O.B.E., has become Director of Electrical and Mechanical Engineering, with the acting rank of Colonel.

EXERCISE " SPITFIRE ".—During a series of small 1st Canadian Infantry Division exercises named " Spitfire," which took place at Camp Gagetown in July, live ammunition was used by almost all the infantry and supporting arms.

AUSTRALIA

APPOINTMENTS.—Major-General R. G. Polland, C.B.E., D.S.O., has been appointed G.O.C., Eastern Command, with the rank of Lieut.-General.

Brigadier C. H. Finlay, O.B.E., has been appointed Quarter-Master General with the substantive rank of Major-General.

Brigadier J. W. Harrison, O.B.E., has been appointed G.O.C., Western Command, with the rank of temporary Major-General.

Brigadier T. J. Daly, C.B.E., D.S.O., has been appointed G.O.C., Northern Command, with the rank of temporary Major-General.

MOBILE BRIGADE GROUP.—This brigade group, the raising of which was given first priority (*vide* Army Notes for August, 1957), reached full strength by the end of September. Called No. 1 Infantry Brigade Group, it consists of a headquarters, an armoured regiment, a field artillery regiment, a light anti-aircraft battery, a squadron of engineers, a signal squadron, two infantry battalions, a special air service company, and miscellaneous supporting units. The first collective training period is expected to be completed by March, 1958.

SPECIAL AIR SERVICE COMPANY.—This new unit (mentioned above) consists of 180 officers and men, all parachute troops, to be used for reconnaissance or as a spearhead to penetrate enemy territory.

FOREIGN

WEST GERMANY

It was announced in Bonn on 5th August that the special militia for home defence is being built up. The first unit, the 717 Heavy Pioneer Battalion, was formed on 4th August. This militia will eventually consist of about 30,000 men, nearly all volunteers, and its principal tasks are to deal with emergencies, evacuations, repair of bridges and roads, and the building of airfields.

AIR NOTES

GREAT BRITAIN

H.M. The Queen

Royal Visit.—Her Royal Highness Princess Margaret visited the Central Flying School at Little Rissington, Glos., on Tuesday, 23rd July. Her Royal Highness was welcomed by the Air Officer Commanding-in-Chief, Flying Training Command, Air Marshal Sir Richard Atcherly, and the Commandant of the Central Flying School. Her Royal Highness examined all aspects of the unit's work and also saw a display of veteran aircraft.

Appointments

Air Ministry.—Air Chief Marshal Sir Walter Lloyd Dawson, K.C.B., C.B.E., D.S.O., to be Air Member for Supply and Organization (1st January, 1958). Air Marshal Sir Gilbert Edward Nicholetts, K.B.E., C.B., A.F.C., to be Inspector-General of the Royal Air Force (1st January, 1958). Air Vice-Marshal W. H. Kyle, C.B. C.B.E., D.S.O., D.F.C., to be Assistant Chief of the Air Staff (Operational Requirements) (1st September, 1957).

Technical Training Command.—Air Vice-Marshal Arthur W. B. McDonald, C.B., A.F.C., to be Air Officer Commanding-in-Chief, Technical Training Command, with the acting rank of Air Marshal (January, 1958).

Home Command.—Air Commodore James Hill, C.B.E., M.B., Ch.B., D.P.H., has been appointed Principal Medical Officer, Home Command, with the acting rank of Air Vice-Marshal (22nd October, 1957).

Second Tactical Air Force.—Air Vice-Marshal H. J. Kirkpatrick, C.B., C.B.E., D.F.C., to be Senior Air Staff Officer (September, 1957).

Operations

No. 284 Squadron, which flies Sycamore helicopters in Cyprus, is frequently employed on anti-terrorist work. It has carried over 10,000 troops since it started operations last October. The use of helicopters has greatly simplified operations against Eoka in mountainous areas. In the past gangs normally received ample warning of the approach of patrols winding their way up the mountain sides, and had time to prepare ambushes. By using the 'monkey drop' technique—the soldiers sliding down a rope from the hovering helicopter—it is not even necessary to prepare a landing site. Troops can be placed at the shortest notice almost anywhere they are needed.

Flight

An R.A.F. Valiant jet bomber, on 25th August, flew 3,300 miles from Ottawa to Marham, Norfolk, in six hours four minutes. This is the fastest Atlantic crossing but it will not count as a record as the flight was a routine one.

Training and Exercises

Flying Training.—The system of training R.A.F. pilots entirely in jet aircraft is proving highly successful. Pupils who have never flown before begin training with Hunting Percival Jet Provosts and later receive advanced instruction in de Havilland Vampire trainers. It has been found that men without flying experience require an average of 10 hr. 10 min. dual instruction in Provosts before flying solo. The lowest recorded time is 7 hr. 5 min. These times are about the same as those taken by pupils learning to fly small pre-war piston-engined de Havilland Moths.

EXERCISE "SEA WATCH."—Air Marshal Sir Bryan Reynolds, on the conclusion of the exercise, strongly supported the remarks made by Admiral Sir John Eccles on the shortage of naval resources. He emphasized the overriding importance of sea power, including maritime air power. He said his problems were the same as the Admiral's. He had not got the forces he needed and the exercise had definitely shown this. The Russians could deploy an enormous number of submarines, which they were known to have.

MATERIEL

INVENTION.—An award of £500 has been made on the authority of the Air Council to Officer Cadet Victor Rose in recognition of an invention which is saving the R.A.F. many thousands of pounds a year. This is an inspection lamp enabling part of the Derwent jet engine to be examined without stripping the engine. The prototype cost about a shilling and included such simple components as an ordinary torch bulb and a small piece of mirror.

COMMONWEALTH

COMMONWEALTH CHIEFS OF STAFF CONFERENCE.—The conference of Chiefs of Staff of Commonwealth countries was held on 27th and 28th August. The Chiefs of Air Staff attending the conference at the Air Ministry were :—

Canada : Air Marshal H. L. Campbell, C.B.E., C.D., (Canadian C.A.S. designate).
Australia : Air Marshal F. R. W. Scherger, C.B., C.B.E., D.S.O., A.F.C.
New Zealand : Air Vice-Marshal C. E. Kay, C.B.E., D.F.C.
South Africa : Major-General B. G. Viljoen, O.B.E.
India : Air Marshal S. Mukerjee.
Pakistan : Air Vice-Marshal Asghar Khan.
Ceylon : Air Commodore G. C. Bladon, C.B.E.
Federation of Rhodesia and Nyasaland : Air Commodore E. W. S. Jacklin, O.B.E., A.F.C.

CANADA

JOINT AIR DEFENCE HEADQUARTERS.—On 1st August, in a joint statement issued in Washington and Ottawa by the U.S. Secretary of Defence and the Canadian Minister of National Defence, it was announced that Canada and the United States had agreed to integrate their air defence operations and planning. As a result they would create at an early date a system of combined operational control of all air defence forces in Canada, the U.S.A., and Alaska under a combined command responsible to the Chiefs of Staff of both countries, set up a joint headquarters at Colorado Springs, and work out plans for instant use in case of emergency. Other aspects of command and administration would remain the national responsibility of the two countries.

APPOINTMENT.—Air Marshal C. R. Slemon has been appointed Deputy Commander-in-Chief of the Canada-United States Air Defence Command. He will take up his appointment at Colorado Springs at an early date.

AUSTRALIA

LINCOLNS IN MALAYA.—In July, No. 1 (Bomber) Squadron, R.A.A.F., completed seven years of operations against the Communists. It has flown 1,500 sorties, more than 20,000 hours flying, and has dropped about 32,000,000 lb. of bombs.

HERCULES PROP-JETS.—It has been decided to purchase 12 Lockheed C-130 Hercules prop-jet transport aircraft. This will be sufficient to re-equip a squadron of the R.A.A.F's No. 86 Transport Wing.

NEW ZEALAND

NEW R.N.Z.A.F. BASE.—A new forward base on Bairiki Island of the Tarawa Atoll has been completed for the R.N.Z.A.F.

N.A.T.O.

TACTICAL FIGHTER.—Pilots began tests on 17th September of five aircraft to select a tactical jet fighter for the N.A.T.O. forces in Western Europe. Four of the aircraft are French and one Italian. Three are powered by British engines.

FOREIGN

SWITZERLAND

FIGHTER REPLACEMENT.—The choice of a multi-purpose fighter to replace ageing aircraft of the Swiss Air Force has now narrowed down to the Hawker Hunter F-6 and the Swiss-built P-16. The number involved would be about 200.

UNITED STATES

MIRROR LANDING SYSTEM.—The British invented mirror landing system which the United States now uses on board its aircraft carriers, was credited with saving the American Navy £7,000,000 a year. This was because the accident rate in carrier landings had dropped from 2.4 per thousand to 0.98 per thousand.

REVIEWS OF BOOKS

GENERAL

Soldiers and Scholars. By John W. Masland and Laurence I. Radway. (Princeton University Press. London: Oxford University Press.) 60s.

The burden of this book, a most thorough and scholarly work, is concerned with the education of the military officer for policy roles. It traces the development of military education in the United States from the 'need to know' of training and specialization to the 'nice to know' stage. It is not only a shrewd analysis of the present-day American military educational system but also provides a useful historical account of the military approach to policy roles. The authors emphasize the growing need of such education by outlining the intensification of the military responsibilities in an age of nuclear weapons.

The thesis of the book is stated briefly on page 25, and is that " . . . the developments chronicled above can most appropriately be viewed as an inevitable consequence of America's new position in world affairs. If this assumption is correct, military officers will continue to participate in the formulation and execution of the most diverse national security policies and programs until national security itself ceases to be a paramount concern of American policy."

This is an interesting and important thesis, confirmed as it is not only by the events of the last generation but more recently in N.A.T.O., where the emphasis has been increased in the political field in relation to the military. In contrast to their counterparts in America, British military officers were long accustomed to the political chores which came in the wake of their military duties, but in general the tradition was for military officers to be educated or trained for tasks distinct from those in the political sphere. The new trend, however, was amply illustrated by the various Allied Supreme Commands set up during the Second World War, and nowhere more profoundly than in the Supreme Allied Headquarters in Europe.

To the British mind the idea of a military officer as a uniformed diplomat is not so very alien after all, but this does not mean that our officers were (or are) always sufficiently educated for the policy role. Our most obvious and best examples, perhaps, are the Governors-General, whose function today is to reconcile the aims of the Dominions with those of the mother country, but not to impose aims.

It is not always appreciated how much of a triumph this is for policy and how far it departs from traditional forms and ideas of empire. It is apposite to ask what will be the role of the new American military officer. Is it to reconcile aims within alliances or is it to impose aims ?

Soldiers and Scholars, being a purely analytic rather than speculative work, cannot provide a specific answer to that question. What it does do, however, is to present the picture of military education in America, 'warts and all,' detailing its limitations as dispassionately as its undoubted qualities are appraised. It is interesting, if disturbing, to know that America's military establishment suffers in some respects like our own. Charges of undue tendency towards conformity and rigid doctrine, parochialism, and inter-Service rivalry, all militating against the best effects of officer education, might with some justice be attributed to our own system.

The education of a military officer is not something to be accomplished by a year or so at a Staff College, nor even by a series of such courses. These of themselves cannot mature his mind or his attitude, whether to his job or to the people involved in that job. Some men reach mental maturity comparatively soon, while others again scarcely ripen. Time and experience are essential in an officer's development, and above all the wisdom of his superiors. This broadening of the officer's role as visualized by Messrs. Masland and Radway is entirely revolutionary, but no matter how the trend of events calls for a less conventional role for the officer, the concept will only be maintained against great odds because Governments, and military officers themselves, however radical their

opinions, are generally conventional and conservative. What the authors are constrained to tell us is that education for policy roles should begin sooner rather than later, and should be the object of a long term view and not short term improvision. The foundations of such an education should be laid now if the flag, general, and air officers of the 1980's are to be adequately equipped for the problems of that decade.

Here is a desk book for the Service Ministries: it is a field work in the realm of education of a very high order and is likely to be of lasting importance to military authorities. Underlying all military instruction and education there should be for the officer, ideally perhaps, a subtle transition from 'know how' to 'know why.' To have demonstrated this distinction so acutely as has been done in *Soldiers and Scholars* is a very considerable achievement.

Defense and Diplomacy. By Alfred Vagts. (Columbia University Press. London: Oxford University Press.) 70s.

This is the first of a series of 'Topical Studies in International Relations,' undertaken by the Institute of War and Peace Studies of Columbia University. It aims to fill a gap left by diplomatic history "by providing, in historical outline, a description of the ties between diplomacy and strategy, between diplomats and military men and their offices, their ideas, problems, and practices, their unity and disunity." It is not a book for fireside reading. Its format, print, and weight pronounce it to be a book of reference.

The author has drawn the bulk of his material from the experience of European armed forces before the first World War. In most cases the reader is left to draw his own conclusions from the historical incidents related; this applies particularly to the 'normal' post-1918 pattern of civil-military relations in democratic countries in general and in the U.S.A. and Great Britain in particular.

A volume of this nature does not lend itself to detailed analysis by the reviewer, since its separate chapters cover distinct facets of defence and diplomacy. A brief description of the chapter entitled "Soldiers in Diplomatic Posts" will suffice to illustrate the author's approach to his subject. It begins with thumbnail sketches of soldier-diplomats (for various reasons the sailor-diplomat was a rarity prior to the second World War) of 17th and 18th century Europe; there follows a brief description of the manners and methods of the Court-trained military diplomats of the Napoleonic era; it passes on to an account of the gradual disappearance of the military diplomat under Bismarck and in France during the second half of the 19th century and up to 1914. The author comments on the reluctance of Britain and U.S.A. to employ soldiers as diplomats in this period and draws attention to the "somewhat bewildering or perhaps misleading to foreigners" employment of American generals in diplomatic posts in the early part of the 20th century, a usage which no doubt set the pattern for the wholesale incursion of American military leaders into diplomacy after the second World War. He concludes the chapter with a summary of the reasons underlying the employment of military-diplomats and arrives at the somewhat debatable conclusion that governments who employ military-diplomats run a great risk because of "the soldier's inclination to be disobedient in political assignments."

The volume is copiously annotated and includes a most comprehensive bibliography.

The Soldier and the State. By Samuel P. Huntington. (Harvard University Press. London: Oxford University Press.) 60s.

The description on the dust cover, 'A searching analysis of the tensions in American society caused by Military Professionalism and the demands of National Security,' may be startling to British readers and mislead others who tend to confuse 'militarism' with 'military professionalism' and argue that national security is the responsibility of the government and not that of any particular section of the community. The military profession, like any other profession, demands specialized training and knowledge. It

British Aeroplanes 1914-18

J. M. BRUCE

Complete history of *all* British aircraft operated or designed during World War I. All specifications are quoted, and copious details of performance figures are given.

11¼ × 8¾ IN. 680 PHOTOGRAPHS. 728 PAGES. £12 12s.

(4-PAGE ILLUSTRATED PROSPECTUS AVAILABLE)

Aircraft of the R.A.F. 1918-57

OWEN THETFORD

"An encyclopaedia of all aircraft used by the R.A.F. since its formation. . . . A handsome compact volume, complete with full descriptions."—*Sunday Times.* "A work that no real aviation enthusiast can afford to be without."—*Air Mail.*

8¾ × 5⅝ IN. 536 PAGES. 340 PHOTOGRAPHS. 180 THREE-VIEW DRAWINGS. 50s.

R.A.F. Biggin Hill

GRAHAM WALLACE

"It tells the story of one of the R.A.F.'s most famous airfields in the best possible manner."—*R.A.F. Flying Review.* "This is one of the best air books to be published since 1945,"—*Air Pictorial*

8¾ × 5⅝ IN. ILLUSTRATED. 21s.

British Battleships 1892-1957

COMMANDER E. R. PEARS, R.N. (Ret'd)

Describes each class of battleship, and there is a full-page photograph of every one. The author tells of the evolution of the class and something of the fortunes of the ships that comprised it. He also describes life aboard them at various periods.

10 × 7½ IN. 40 PLATES. 36 THREE-VIEW PLANS. 42s.

Fabulous Admirals

Edited by COMMANDER G. LOWIS, A.F.C., R.N. (Ret'd)

Recalling the world's most astonishing pride of Admirals—'Pompo' Heneage, 'Bill' Fisher, 'Paks' and the rest, boisterously illustrated by Captain Jack Broome.

8¾ × 5⅝ IN. ILLUSTRATED. 21s.

Make a Signal!

CAPTAIN JACK BROOME, D.S.C., R.N. (Ret'd)

"There are more outright laughs and deep chuckles than you would find in most joke books, for this is the Navy talking by flags, lamps, and radio; the R.N.'s private and intimate diary of messages."—*Daily Mail.*

8¾ × 5⅝ IN. ILLUSTRATED. 18s.

PUTNAM & CO. LTD.

42 *GREAT RUSSELL STREET, LONDON, W.C.*1.

originated in Prussia in the beginning of the 19th century, spread to France, but only reached Britain much later. The gradual change from an army led by officers drawn from the ranks of the nobility and landed gentry, whose military outlook was essentially amateur, may be said to have started with the abolition of the purchase of commissions in 1871 and continued up to the first World War, from which the Regular Services emerged as a profession open to all who possessed the necessary qualifications irrespective of their birth and private means.

Fortunately, probably, for this country, the rise of military professionalism coincided with the establishment of complete control over the armed forces by Parliament, so that at the period when the Services were in a position to exercise influence in politics by virtue of their divided control by Parliament and the Crown, their leaders were still amateurs who regarded soldiering as a hobby. However, the British 18th century system of dual control had been exported to the American Colonies and was later copied by the framers of the American Constitution. " As a result many of the problems of military professionalism and civilian control later faced by the United States closely resembled those of Georgian Britain."

The separation of the executive and the legislature is fundamental to the United States Constitution, and consequently the Service Chiefs are faced with a dual allegiance —to the President as Commander-in-Chief and to Congress as the legislative authority. It is this system which leads to the problem of civil-military relations in a manner and form unknown in this country.

The author is a lecturer in ' government ' at Harvard University, and it is as a political scientist that he approaches his task of evolving a theory of civil-military relations. Starting with an analysis of the military profession and what he terms ' the military mind,' based on historical evidence drawn from Western Europe, the United States, and Japan, he leads up to his main theme which is the radical change in the function and attitude of the United States Military Chiefs which took place in the Second World War and which has continued in varied form during Korea and the Cold War.

Prior to the Second World War the geographical isolation of the United States and the balance of international power permitted the virtual elimination of standing military forces (apart from some overseas garrisons) and the exclusion of the military from political power. The second World War found the civil departments of government totally unprepared and ill-equipped to face the task of national mobilization. In consequence the military stepped into the breach and took over the functions abdicated by the civil authorities. In this transfer of power Congress connived or, as the author expresses it, " to achieve victory, Congress was willing to trust in God and General Marshall." Not that the American Chiefs of Staff were entirely happy in their joint military-political role ; at times they " yearned for the orderly division of responsibilities of the British system."

Summing up the American control of the war the author concludes " something is wrong with a system in which, during the course of a four-year major war, the Political Chief Executive (the President) only twice overruled his professional military advisers. This can only mean that one of them was neglecting his proper function and duplicating the work of the other." With the emergence of the United States as the leading military power in the post-war decade, the military profession assumed a new and unprecedented influence in American society and infiltrated into non-military roles in government, industry, and politics. Marshall, Eisenhower, and MacArthur are outstanding examples of this trend.

The author concludes with a detailed analysis of the period 1945–55 in the light of the tension between the demands of military security and the values of American liberalism, and gives an illuminating account of the difference in civil-military relations between the Truman and Eisenhower administrations. The book ends with a plea that

History of the Second World War
United Kingdom Military Series

THE WAR AGAINST JAPAN

Vol. I: The Loss of Singapore

By MAJOR-GENERAL S. WOODBURN KIRBY
and others

In the first of five volumes which are being written as an inter-service history from the viewpoint of British commanders in the Far East, the authors attempt to find the reason for the Allied defeats in that area in 1942. The political and military background of the preceding twenty years is shown to have had a bearing on the situation. The loss of Hong Kong and the Japanese conquest of the Netherlands East Indies are described, and the greater part of the volume is devoted to the retreat down the Malay peninsula, the withdrawal to Singapore Island, and the ultimate surrender of 130,000 troops and the loss of the great Naval base. More than 60 maps and other illustrations. Fully indexed; nearly 600 pp. **Price 55s.** (*post* 2*s.*)

THE SERVICES TEXTBOOK OF RADIO

Vol. I: Electrical Fundamentals

By G. R. NOAKES

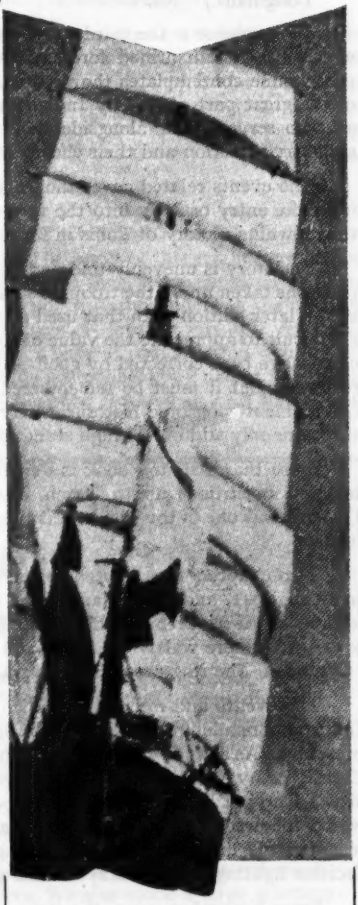
Written by the senior physics master of Uppingham School, this volume (also published as part of *Services' Textbook of Electrical Engineering*) deals with electricity, magnetism and a.c. theory with a simple introduction to rotating electrical machinery and illumination. Illustrated; indexed.

Price 30s. (*post* 1*s.* 6*d.*)

HMSO

from the Government Bookshops
or through any bookseller

A PICTURE HISTORY OF SHIPS



C. Hamilton Ellis in this magnificent book traces the history of ships from earliest times to the present day. Beautifully produced, with over 400 fine illustrations of ships of all kinds from all over the world.

From all booksellers **30/-**

HULTON PRESS
FLEET STREET, E.C.4

American society ease the tension between its liberal values and the needs of national security by altering those values so as to coincide more closely with the conservative realism of the professional military outlook.

Official History of the Indian Armed Forces in the Second World War, 1939-45. The North African Campaign, 1940-43. Compiled by Major P. C. Bharucha for the Combined Inter-Services Historical Section (India and Pakistan). (Orient Longmans.) 50s.

This volume is the third to be published in the series covering all the campaigns in which the Indian armed forces were engaged during the years 1939–45. The whole programme contemplates the production of some 18 similar volumes, a clear indication of the great part played by Indian units in the second World War. It must appeal to all who served in or alongside the Indian formations referred to, for it records their gallantry in action and their cheerfulness and staunchness in adversity.

The events related cover the fluctuating operations along the north coast of Africa, from the entry of Italy into the war, and Wavell's first offensive of December, 1940, to the crowning victory of Tunis in May, 1943.

The story is unevenly told and there is too much repetition. The description of the positions taken up by the troops is sometimes faulty, the map used to illustrate one action is of a later edition than that used at the time, containing data not then existing, and it is difficult to appreciate the value of some of the appendices included. All these mistakes could have been corrected by good editing, and the several printer's errors by good proof reading. But it must be remembered that the Historical Sections which compile these Government-sponsored histories rarely include a trained publishing branch, and one can therefore only admire the high standard normally reached in all these official productions.

More than half the book is devoted to the part played by the 4th Indian Division in these operations up to March, 1942. This story is very well told, and since this Division was one of the best in this theatre, its handling in action contains many valuable lessons.

Two chapters are devoted to the action of the 3rd Indian Motor Brigade at Mekili in April, 1941, and the gallantry and effectiveness of this stand would be more readily appreciated if the enemy's side of this fighting were more fully recorded. In fact, Rommel's forces were more widely dispersed and his troops more tired than those then comprising 'Cyrcom.' The ring around Mekili was very thin on the ground.

The events and discussions which took place prior to the break out of 7th Indian Infantry Brigade from the area south of Benghazi at the end of January are clearly presented. As a study in the art of command in war they contain pointers as to why the Eighth Army was defeated and driven eastwards to the El Alamein line five months later. The 5th Indian Division took part in the battle of Gazala and in the long retreat which followed. Committed piecemeal, it suffered heavy casualties without somehow reaching the distinction won by the 4th, which was reconstituted to take part in the decisive fighting which finally set the seal on Rommel's hopes of ever reaching Cairo.

From November, 1942, the story of the closing six months of this campaign are told at too high a level to be especially interesting to Indian readers, and it is strange that more details are not given of the assault by the 4th Indian and 4th British Divisions on the Axis lines which opened the Battle of Tunis.

This volume is a noteworthy addition to our knowledge of the various campaigns waged in this theatre since it contains detail which will be found nowhere else. The maps are adequate if not quite up to the standard set by other countries of the Commonwealth, and the photographs are excellent. The whole forms a worthy tribute to the battle-scarred units whose deeds it recalls.

Official History of the Indian Armed Forces in the Second World War, 1939-45. Expansion of the Armed Forces and Defence Organization. By Sri Nandan Prasad, Ph.D. (Orient Longmans.)

The author has compiled this volume for the Combined Inter-Services Historical Section, India and Pakistan. It is divided into four main parts dealing with the armed forces before the war, their expansion during the war, their demobilization, and finally the defence organization which controlled all these projects. At the end there are 61 important appendices, whilst many charts are included in the text.

This is a very well designed and well written book, containing a great deal of valuable information and data on the subjects dealt with. It was essential that some such volume should have been produced for inclusion in the series of Indian Military Histories covering the second World War to fund the knowledge gained, but it was by no means an easy one to write. The author might well have been led away by the many minor issues bearing on his main themes, but he has avoided this pitfall and, concentrating on the essentials, has maintained a correct level throughout.

The Indian Army alone expanded from a strength of 194,373 in 1939 to one of 2,065,554 in 1945 and the corresponding increases in the Indian Navy and Air Force, if not so noteworthy, were equally large in proportion. The whole of this gigantic expansion was achieved on a volunteer basis under conditions which must have appeared at times well nigh insurmountable to those responsible. The political atmosphere in the country during this period did not always favour rapid changes or development and yet if the Government's plans were to succeed a very enhanced degree of Indianisation would have to be accepted in all three Services. At the same time industrialization had to be pressed forward, for England could no longer supply the weapons required to arm such forces

AT YOUR SERVICE . . .

GALE & POLDEN LTD

THE PRINTERS, PUBLISHERS AND STATIONERS TO THE SERVICES

***PRINTING** We are specialists in the design of Service Printing —no matter how large or small your requirements our expert knowledge will ensure that the work is correct in every detail. Estimates and samples are all part of the service.

***DIESTAMPING** Service crest dies are kept in stock and ready for immediate use.

***BOOKSELLING** Our Service publications are well known throughout the Services. We also stock a large selection of sporting books, general fiction, war stories, etc.

GALE & POLDEN LTD

THE WELLINGTON PRESS, ALDERSHOT

LONDON . PORTSMOUTH . CHATHAM . CAMBERLEY

or to maintain them, and recruits drawn largely from a rural population had to be trained to become mechanically minded. To support such an expansion a huge base organization had to be built up to cater for the needs of the forces both physically and morally. As in England, so in India. Practically every department of state was finally geared to play its part in the general war effort, and the means by which this was done is well told and is a tribute to all those who achieved such outstanding results.

The Indian Army of 1939 had deep roots and high traditions, often based on a fixed percentage of recruitment of the various races and religious sects. In the course of years, and after innumerable campaigns, the population had come to be divided from a military point of view into martial and non-martial races, but to meet the expansion now demanded this had to be overcome, and it was found that all could play their part most adequately in a national army in a modern age. In the case of each of the countries engaged the rapid expansion of their forces tended to lower the resulting standard, but in the case of the Indian forces this remained remarkably high, enabling them to defeat the Japanese and to play their part worthily in both the African and Italian theatres of war.

This book may well describe the last attempts at collaboration between Indians and Englishmen on an integrated military policy laid down in London. All those responsible for these far-reaching policies and plans will find recorded here a full appraisal of their work. Each can be proud of the part he played in such tremendous events and all who took part in the production of this volume are to be congratulated.

In Defence of Colonies. By Sir Alan Burns. (Allen and Unwin.) 25s.

Let the Great Story be Told. By H. Wood Jarvis. (Staples.) 15s.

To combat criticism, sometimes ignorant, sometimes interested, often downright dishonest, on the subject of colonialism in general and the British colonial record in particular, a book needs to be honest, concise, hard hitting, and wise. Sir Alan Burns has done a fine job with the book under review. After 42 years in the Colonial Service he was for nine years Permanent U.K. Representative on the Trusteeship Council of the United Nations. He has thus unrivalled experience not only of colonialism in practice but of hostile critics and criticism. He can distinguish, and does, between self-determination and anti-colonialism. For the first he has proper respect; for the second, calculated suspicion. The latter he justifies in some valuable chapters which probe the attitude of our principal critics, notably a section of U.N.O., the Americans, Soviet Russia, India—a particularly hard-hitting chapter, this—Latin America, and certain other States. This is fine writing; it is impossible here even to outline Sir Alan's line of attack, but it carries enough material to expose the hollowness of the 'anti-colonialism-at-all-costs' school, especially when that school is supported by the countries which he has singled out for exposure, themselves colonial powers in one form or another.

But this is not all. The second part of the book examines some specific claims to British Colonial territories made by those who would take them from us. Aden and the Yemen, British Honduras, the Falkland Islands, Gibraltar, North Borneo, and the High Commission Territories of South Africa; all these are examined and argued. Cyprus has a chapter to itself. The style and spirit of the author draw the reader along. This book will delight many who have little use for defence without counter-attack. The tragedy is that it will not be read by those who should read it, amongst whom we should include first those of our own country of whom "a large proportion were unable to distinguish between self governing countries of the Commonwealth and the dependent territories, few could name more than two or three of the colonies, and some believed that various foreign countries were British possessions." (p. 14.)

Sir Alan includes a short chapter, sufficient for his purpose, on how the colonies were acquired. The second book under review, *Let the Great Story be Told*, makes this its principal object and is designed to refute the charge that the Empire was built up by British forces sailing round the world 'conquering' this country and 'enslaving' that,

an idea all too prevalent not only amongst our enemies but amongst those who should know better. It is pleasant and exhilarating to read again the stories, which lose nothing in re-telling, of John Smith, Roe, Job Charnock, Clive, Horrocks, Banks, Bass, Stamford Raffles, Gibbon Wakefield, and others. They are stories of which we may be proud and they are stories which should be taught. There is nothing in them to hide. But in a book whose purpose is admittedly to refute charges, omissions can be as damaging as admissions are a help. Chapter XXIV, "The Passing of the East India Company," tells the story of the years 1798 to 1858 without mentioning in any way the First Afghan War, the Sikh Wars, the annexation of Oudh, or even the Mutiny of 1857. This is a pity. Such omissions, made for whatever reason, may distress many readers and lay the book wide open to hostile criticism. Apart from this, one could wish that the substance of the book were in the curriculum of all State schools.

By Command of the Emperor. By S. J. Watson. (The Bodley Head.) 25s.

This work is timely and welcome, since apart from the scattered references to him in Macdonnel's *Napoleon and His Marshals* and the standard lives of Napoleon, no biographical details of Louis Alexandre Berthier are readily available.

Berthier will always be associated with the meteoric career of Napoleon Bonaparte. Yet this true child of the Army—his father was a distinguished engineer officer—was soldiering before the little Corsican was born, having accompanied the Gallic contingent, under Rochambeau, that intervened in the American War of Independence.

Although a serving officer under the *ancien régime*, Berthier survived the upheaval of the early days of the Revolution very largely because, quite obviously, he was perfectly sincere in his affirmation that matters of politics are outside the soldier's province; that so long as the constitutional authority *has* been properly constituted, it is his duty to serve it to the best of his ability. It was an entirely impersonal but perfectly logical point of view which comprehensibly elucidates his attitude at the time of the Emperor's abdication in 1814.

Berthier's first meeting with the Corsican was in March, 1796, when the latter had just been given command of the Army of Italy. In view of their relative ages and experience, and the posts to which they had respectively been appointed, it was an occasion that called for considerable tact. But the whole of this indispensable emollient had to be supplied by Berthier, and how admirably he succeeded in adjusting their relationship is witnessed by the fact that it continued without a break for 18 hectic and persistently exacting years.

Such a partnership—for it was little less—was only rendered possible by Berthier's genius for self-effacement. In every sense of the term he lived up to the qualification that Moltke esteemed as the primary essential in a staff officer—the ability to "be more than you seem," to "achieve much, but keep in the background." Berthier, indeed, seemed positively to rejoice in the opportunity to attribute to his master the sole glory for a military triumph to which his own contribution had been outstanding. "I would rather be an aide-de-camp with you," he once wrote the Emperor, during a period of temporary separation, "than Commander-in-Chief here." That Napoleon took gross advantage of this unswerving fidelity and self-abnegation, by railing at his patient, uncomplaining subordinate and jeering at his long-enduring passion for the unattainable Madame Visconti, is only in character. The Don from our oldest University who returned from a close observation of the Corsican, during the period of quasi-peace in 1802, solemnly to remark, "You could see at once that he was not an Oxford man," in his own way went straight to the root of the matter. Napoleon, for all his flashes of military genius, was fundamentally a coarse-fibred vulgarian, to whom such sentiments as common gratitude and appreciation of another man's merits were entirely unknown.

By the time of the Hundred Days Berthier was worn out, and rooted firmly in retirement. But it is a moral certainty that his services were never more grievously

missed than on that rain-soaked morning when Napoleon confronted Wellington on the field of Waterloo.

Major Watson has written an admirable study of a man whose genius, in its own particular way, compares in no sense unfavourably with that of the generalissimo he served so faithfully and so well.

Disputed Barricade. By Brigadier Fitzroy Maclean. (Cape.) 25s.

Jugoslavia, in proportion to its size and population, is one of the most important factors in the international sphere of today, owing to its geographical and ideological position between the Soviet and the West. An understanding of her recent history, and of the social, economic, and political conditions which have developed therefrom, is an almost essential requisite for serious students of international affairs.

Unfortunately, however, Jugoslavia is by no means an easy country to study. Her multiplicity of minor nationalities, religions, languages, and scripts, her peculiar relationship toward the Kremlin, and the diversities of mutually antagonistic resistance movements during the Second World War (Četniks, Ustašes, Partisans) all tend to make the subject of Jugoslavia and her history rather complex. There has long been a need for some simple but authoritative explanation of all these matters. In *Disputed Barricade* we now have the book required.

It would be hard to imagine any author better fitted to tackle this subject than Fitzroy Maclean. He is a close personal friend of Tito, though probably disagreeing entirely with Tito's ideological philosophy. Without this personal friendship it would have been difficult for any author to present the intimate details which figure in this book—for example the private talks at Stalin's ' dacha ' near Moscow and the conversations between Soviet and Jugoslav politicians which preceded the great Stalin—Tito quarrel of 1948.

The author's distinguished participation in the guerrilla campaigns as Head of the British Mission to Tito has resulted in a brilliantly concise and clear narrative of this intricate phase of the war. Apart, therefore, from politico-diplomatic information, this book offers valuable lessons to military students of modern guerrilla warfare.

Nor is it merely a book for serious students. In style and contents it is a ' thriller,' just as exciting as any work of fiction. Besides Tito himself other strong personalities figure in the story so vividly that the reader can see them as living men—Pavelić the ' quisling,' Djilas, and others of Tito's band, Cardinal Stepinać, and General Mihailović. The trials of the two last named are described in detail in a very moving manner. Incidentally any squeamish reader may do well to skip certain pages. For such, the doings of the Croatian Ustaše will certainly be undigestible reading !

For all who are seriously interested in Jugoslavia, in Communism, or in foreign affairs generally, this book is worth more than a mere borrowing from a library. It is worthy of a place on the bookshelf as a reliable book of reference. Wisely the author has refrained from propaganda on controversial matters. His approach throughout the story is factual and objective, leaving the reader free to make up his own mind.

The Most Important Country. By John Connell. (Cassell.) 16s.

This book contains an account of the Suez Crisis in 1956 and of the events leading to it. The story opens with a brief survey of the state of affairs in the Middle East after the end of the first World War, and the first chapter takes the reader up to the end of the period when the Labour Government was in power. The key word—the Ruined Fort—is *le mot juste*.

The circumstances leading to the abdication of King Farouk and a review of Anglo-Egyptian relations continue the story up to 1954. All this time an uneasy tension existed between Israel and the Arab States (including Egypt), and trans-border raids

and reprisals were not uncommon. The author explains how the Baghdad Pact of 1955 came into being and describes the reactions of other Powers which were not signatories to it. He also shows that the increasing attempts by Russia to ' shove her oar in ' did nothing to dampen an already sufficiently explosive mixture.

The attitude of the U.S. State Department and of American ' oil ' during these years is commented on, and it is noted that an impending Presidential election did not conduce to a firm policy in foreign affairs.

Matters came to a head in the summer of 1956 when the United States Government withdrew its offer to assist in financing the High Aswan Dam project, a step which was immediately followed by similar action on the part of the British Government. Nasser's reaction was to seize the Suez Canal, notwithstanding that the 1888 Convention had still a few years to run.

On 29th October, the increasing number of *fedayin* raids on Israel led to her forces entering Sinai, dispersing the opposing Egyptians, and advancing rapidly on the Canal. The Security Council, by virtue of its constitution, worked much too slowly for an emergency of this nature, and the United Nations Organization had no police force immediately at its disposal with which to implement its decisions. An Anglo-French ultimatum to both sides to cease hostilities forthwith was rejected by Egypt, so limited military action—solely to prevent a war from spreading—was taken on the 31st. This had the desired effect ; and as soon as the United Nations were able to provide a police force on the spot, the Anglo-French troops were withdrawn.

Mr. Connell, who is a Conservative political journalist, makes no claim to having written an official history, and his only references are those which are to be found in published documents and books. The statements made and the views expressed are his alone, but he evidently concurs in the policy adopted by Sir Anthony Eden. He has tried to set down a factual account of the tangled politics involved and of the sometimes unedifying scenes during the debates in the House of Commons. Inevitably toes are trodden on but, as he says, " every principle that I possess in politics is summed up in one sentence ; the truth is great and must prevail."

This book provides for the student of foreign affairs a clear statement of the why and wherefore of the events described. How far the author's presentation is correct must be left to the verdict of the historian of the future, who will have at his disposal those documents which at present are not available for public inspection. An index and two maps are provided.

The Soviet Far East. By Erich Thiel, translated from German by Annelie and Ralph M. Rookwood. (Methuen.) 35s.

This book is a geographical and economic study of its subject, not a political one. It is easy to understand why the author insists on this. He is engaged upon a larger work which will cover the entire Soviet Union. The approval, if not active co-operation, of the Soviet authorities will be as essential for him in this larger research as it has obviously been necessary in his collection of detail for this present book.

In the voluminous bibliographical list given at the end of this book the bulk of literature consulted is Russian. Nearly all of this has been published since the Bolshevik revolution, which means that it bears the ' imprimatur ' of the Communist government. Some of Professor Thiel's information was obtained by his own personal travel in the Soviet Far East. This means, of course, that he travelled under M.V.D. auspices, and so tended to see and hear what the authorities wished him to see and hear.

He is obviously a shrewd observer, and the reader will be anxious to find some hint of this cultured gentleman's real impressions of human conditions in the land which he describes.

So cautious, however, has the author been not to queer his pitch for future research that the glimpse of evil only intrudes twice in the whole book—an extremely carefully worded paragraph about labour camps on page 147 and on page 198 a reference to the Kolyma goldfields as " one of the most ill-famed and dreaded areas of the Soviet Union," owing to the labour camps, the harsh climate, and the ruthless exploitation of the goldfields.

This understandable reticence, coupled with a German thoroughness in compilation of data, has produced rather a ' stodgy ' and inhumanly dry book—rather like discussing the furniture of a house, while deliberately ignoring the unpleasant habits of its occupants.

As a fund of information on the geography and economic resources, however, this book should prove a valuable source of reference. Incidentally the plain narrative of Russian colonization of these parts provides a powerful answer to Soviet accusations of British imperialism.

NAVAL

The R.N.V.R. By J. Lennox Kerr and Wilfred Granville. (Harrap.) 21s.

To attempt to tell the story of the Royal Naval Volunteer Reserve in a single volume of modest proportions is an ambitious undertaking. This great movement reached remarkable peaks of achievement in the two World Wars, and the authors must surely have found sufficient material in those periods alone to have filled half a dozen volumes. War, however, is only part of the story they have to tell, for the peace-time tribulations of these ' amateur sailors ' take an equally important and exciting place in their story as a whole.

Yet here it all is, peace and war alike, and presented with remarkable balance. The main story of this volunteer movement flows accurately and evenly down the years, reaching its two crescendoes of wartime valour and endeavour in the natural sequel of events. One could, perhaps, have wished for more detail about the R.N.V.R. activities during these two wars, for much of it is truly inspiring, but the authors are probably wise in their decision to limit such descriptions in the interests of a coherent history.

One can have nothing but praise for this little book on a big subject. The two authors remain objective throughout and have obviously written the book as a team, for there are no discernable differences of style in its pages. Their story is a good one, and only they can know the immense difficulties which must have faced them in sifting the mass of official evidence for the essential material of their tale. It must have been an immense task, but the book which has emerged from their labours proves it to have been very much worth while.

Ark Royal, 1939–41. By William Jameson. (Hart-Davis.) 30s.

Lonely Command. By A. A. Hoehling. (Cassell.) 15s.

These two books are in many ways dissimilar yet complement each other in a most interesting way. Admiral Jameson's book, of course, tells the detailed history of the carrier *Ark Royal*, from whose flight deck flew the Swordfish which disabled the *Bismarck* and delivered her to the avenging guns of the Home Fleet; Mr. Hoehling's describes the activities of the German cruiser *Emden* in the war which took place 25 years earlier. Admiral Jameson writes with meticulous regard to fact and gives his readers a sober, detailed account of the life of this great aircraft carrier; Mr. Hoehling's account of the German raider, in its conversational detail, borders on the fictional and, in the style of its writing, on the comic strip.

But the interesting link between them is the unconscious light they throw on the British and German conceptions of the use of sea power. Although each book refers to a different war, the pattern remained constant in both of them. We are shown the *Emden* in the role of raider, her operational area gradually restricted as the hunt closes in, and the final scene when she is run to earth by the cruiser *Sydney*. In the case of the *Ark*

Royal we see her steaming thousands of miles across the oceans, her aircraft searching the waters for the enemy raiders known to be at large. Hunted and hunter; the pattern is repeated, and the players of the principal roles are the same in both wars.

Of the individual books themselves, it is more difficult to comment. One must praise Admiral Jameson for the faithfulness of his account and the vast amount of detail he has included, although some doubts arise as to whether even the *Ark Royal's* story justifies so large and expensive a book. And while Mr. Hoehling's book is the more readable in respect of length and vivid description, it is sadly lacking in the authentic nautical touch. But read together in the wider perspective of the differing conceptions of naval warfare, they paint together a graphic and intriguing picture.

ARMY

Cassino. By Fred Majdalany. (Longmans.) 21s.

Even the most carping critic would find it hard to fault this study of the series of operations which the author collects under the name *Cassino*. A modern battle, he writes, is indeed a series of operations, in this instance from the first immature attempt on the river crossing at the foot of the mountain-fortress to the capture of Rome, months later. But the name *Cassino* is fitting; that ridge was Queen of the field. Mr. Majdalany who, as an infantryman, a company commander in the battle, has a proper appreciation of ground, keeps it well to the fore in his narrative. "Ground is the raw material of the soldier as weapons are his tools . . . ground is the material which the soldier must study, cherish and adapt to his purpose. This is the basis of all military tactics."

To the Abbey-topped mountain he reverts again and again. It dominates his story as it dominated soldiers fighting for its possession. A preliminary chapter tells of its impressive history. Then, as the tale is told, phrases stick in the memory such as, "the psychological impact of this altogether exceptional observatory"; "the spell of its monstrous eminence"; "to soldiers dying at its feet, the Monastery itself became in a sense the enemy"; "it made a man feel puny and helpless just to look at it"; "the obsessive theatrical manner in which it towered over the scene." Never are we allowed to forget its material and psychological influence on the battle.

In the fights for the river crossings, as in the battles for the mountain, the infantry reader will delight in what he finds for the study of his craft, a craft by no means dead even in days of nuclear horrors and other dire predictions. He will appreciate a passage like this, on the second battle: "It showed how, in the most mechanized war in history, conditions of ground and weather could arise in which machines were useless and the battle had to be fought out between small forces of infantrymen, with rifle, machine gun and grenade. An army that could call on six hundred tanks, eight hundred artillery pieces, five hundred aeroplanes, and sixty or seventy thousand vehicles of all shapes and sizes found itself dependent on the humble pack-mule. In the mountains above Cassino in February a mule was worth a dozen tanks." And what infantry they were! Most interesting is Mr. Majdalany's assessment of two famous divisions, the New Zealand, and the Fourth Indian, their methods, their pride, their attitude. The New Zealand "closed shop," concealed discipline and high proficiency; the Indians' superb professionalism, and in passing, a pretty tribute is paid to the officers of the old Indian Army.

But the book is not all of the bitter fighting on mountain, beach and river. Well and closely as that is described, down to companies at times, the wood is never lost for the trees. The strategical problem on Prime Minister–President level is put before us. The interplay and frustrating relationship of Anzio and Cassino are made clear; the problem of bombing the monastery is given a chapter to itself. We are told of the rival bids for landing craft and the effect these had on the conduct of the campaign; of the medical problem and the particular types of casualties; of Intelligence as assessed at the front and as assessed not so close to the front. There are vignettes of commanders, especially of Freyberg and Tuker, the latter who "carried out one of the stranger acts of generalship

of the War," too good to tell in a short review, and finally the author leaves us with that horrible question: "what was it all worth?". When Rome was captured and when victory was in sight the force was robbed of its finest formations to fight elsewhere. "Cassino . . . was in the end little more than a victory of the human spirit: an elegy for the common soldier: a memorial to the definitive horror of war and the curiously perverse paradoxical nobility of battle."

A glowing book, and one wishes Mr. Majdalany could now be invited to bring his penetrating observation on to some older campaigns which badly need reviving and re-writing.

The History of the Indian Mountain Artillery. By Brigadier-General C. A. L. Graham, D.S.O., C.B.E. (Gale and Polden.) 30s.

This is the story of a little-known branch of the Artillery from 1850, when the first permanent battery was formed, until the partition of India in 1947. Earlier units, however, are mentioned, as are the mountain artillery of some Indian States and the Frontier Garrison Artillery, who will be remembered as the 'Blokes' by many old officers who served on the Frontier. The book is dedicated to "our friends the Indian officers and other ranks who served the guns loyally for nearly a hundred years." Finally, a fitting tribute is paid to "our faithful and tireless servant, the Ordnance mule."

The mountain batteries were originally raised for service on the North-West Frontier, and four of the earlier units, which still survive, belonged to the Frontier Force. The batteries were continually employed in that part of India; in fact scarcely a year passed without one or more of them being engaged in some action. In addition, before the first World War, batteries took part in foreign campaigns in Abyssinia, Afghanistan, Somaliland, Persia, and Tibet. They also served in operations in Aden, Assam, and Burma. In the first World War the mountain batteries fought in Egypt, Gallipoli—where they were the first guns ashore and the last to leave—East Africa, Palestine, Iraq, and Persia.

During the second World War they fought in East Africa, Abyssinia, Malaya, Burma, and Java. As Field-Marshal Lord Alanbrooke remarks in his foreword, ". . . it is probable that the mountain artillery saw as much, if not more, active service than any other branch of the Regiment." The author has obviously taken great pains in producing this story of gallantry and fighting spirit, combined with efficiency, which nobody could appreciate more than the infantry whom they supported so loyally and well.

So far as the fighting on the Frontier is concerned, however, the narrative consists, in most cases, of a brief record of engagements, though the background of events is adequate. The account of service in the two World Wars is in more detail, particularly as regards the campaign in Burma. The book contains much information as to pay, equipment, organization, etc., but this, apart from that given in appendices, is difficult to refer to owing to its arrangement in the text and an inadequate index.

The volume is well produced and is provided with eight sketch-maps, good illustrations, and a glossary. There are several useful appendices, which include notes on the Indian States' batteries, the 'Blokes,' Mountain Artillery stations, and an account of a reunion of veterans at Ambala in March, 1933. It should be of great interest not only to old mountain gunners, but to others who have served alongside these splendid units.

The Outermost Frontier. By Helmut Pabst, translated from German by Andrew and Eva Wilson. (Kimber.) 18s.

Pabst was an educated young German, serving as an artillery non-commissioned officer on the Russian front from the initial offensive of June, 1941, till his death in action in 1943. He was employed mostly in O.P. work. This book has been compiled from his diary kept in the form of letters to his parents, and gives a vivid, though naturally rather disjointed, impression of the fighting, the long marches, the climate, and the front-line routine as seen by a front-line soldier.

Many books of this type have emerged from the two World Wars. For those who enjoy them this is a very good book of its kind. Its special claim to interest lies in the insight which it gives to conditions on the Eastern Front, about which so little is known in the West. Above all it offers many extremely useful sidelights upon the characteristics and habits of the Russian soldier.

There is frequent mention of weapons and methods that were never encountered in north-west Europe—the formidable 'Stalin organ' (a lorry-borne multiple rocket-launcher) of the Russians, for example, or the German version of the 'Air O.P.,' which seems to have been as useful to them as its British counterpart was to us. But, as always, the lasting interest of a book like this does not depend on fleeting tactical details, which will be out of date next time, but rather upon the human factor, which will never change. From this point of view the young German's descriptions of his contacts with Russian peasants, and his impressions of 'Ivan,' his opposite number, are worth perusal.

His itinerary is rather difficult to follow owing to the lack of any map, but this does not seriously detract from the general interest of the story.

AIR

Britain's Air Survival. By Sir Roy Fedden. (Cassell.) 11s. 6d.

The two extremes of British military problems have been vividly presented recently; on the one hand the Sultan of Muscat's call for aid in Oman, on the other hand the Kremlin claim to have tested successfully an inter-continental ballistic missile. These events, the state of our air armoury as represented at Farnborough, and our mobility as represented at Suez, all taken against the background of Government policy as represented in the Defence White Paper of April, emphasize the timeliness of Sir Roy Fedden's critical survey.

No one in the western nations is better qualified than Sir Roy to make constructive criticisms in regard to British attitudes and doings throughout the whole range of applied aviation, not only as an outstanding exponent of aeronautical engineering and production but also as one long practised in criticism of the authorities charged with air development and the provision of men of skill. Essentially a patriot, it must be galling to Sir Roy to reflect that those who have been most ardent and successful in putting his teachings into effect were the very men by whose achievements in aeronautical engineering and production this country came near to defeat: young men who were to become the great German aircraft constructors of the second World War were students of his at Bristol. No wonder those men were proud to show Sir Roy, in the years close to 1939, how they were succeeding, and why. Through them he became the best-informed man on the actualities and potentialities of the industry behind the *Luftwaffe*. No wonder he became a thorn in the flesh of the Munich-time British Government. Alas, his demands for greatly increased production were discounted on the unworthy grounds that he was "not disinterested."

It is to be hoped that the same sort of mental reaction is not following Sir Roy Fedden's demand for an independent Air Power Tribunal in the pattern set by the American Finletter Commission. For the chief purpose of *Britain's Air Survival* is to establish that the swift, objective, and forceful findings of that Commission enabled the United States to create an instrumentation of air power more advanced than can be accounted for by mere numbers of technicians and wealth in dollars, and that our only hope is to do likewise by like means.

Sir Roy holds that we have the technical ability to do what we must do in regard to *essential* weapons and mobility, but lack the powers of selection, concentration, decision, and control which characterize the Americans and Russians in regard to research, design, engineering, production, and training. He does not precisely say that the 'buffer state' which exists at the Ministry of Supply is the cause of creeping paralysis, nor that the

military mind is confused and conservative, the Government equivocal, and the industry impotent, but the reader is left with the feeling that the author believes our leadership to be inhibited by the depth of the ruts of die-hardism in a downhill road to a darkening quagmire of urgency fitfully lit by an omni-directional will-o'-the-wisp, what time our technical staffs in penny-numbers plod uphill to moorland wastes of limitless impossibilities. Sir Roy calls for a new deal, not for more expert enquiries, not for a Royal Commission (he avoids the word commission which, copying us, President Truman gave to Mr. Finletter) but for a small team of wise assessors backed by a competent secretariat.

The author does not enquire whether, had such a tribunal existed in 1936, it would have given more weight to the opinions of Whittle or Fedden in regard to powering high-speed flight; or of Liddell Hart to those of Montgomery-Massingberd in regard to equipment for land warfare. Nor does he remark that the basic reason for the present state, world-wide, of inefficiency in aeronautical engineering is the same in character as the reason for the present state, world-wide, of inefficiency in management of human affairs—government: a misconception of the nature of the problems and misapplication of power to their solution! The rocket, the ramjet and the turbojet, and the projectiles they propel rely on brute force jettisoned in turbulent heat from an inflexible structure into the ambient air. Any child of nature contemplating how to move with seemly grace, and consequent economy of effort, in a yielding fluid must agree that the fluid yearns to be treated in the mode of its own nature and will reward the engineer who thus woos its power to respond. But the most 'advanced' air weapons are so ill-adapted to terrestrial conditions that they can only live at their supersonic best where there is no air at all, and ramjets thrive where wings no longer do the lifting.

If Sir Roy Fedden's Air Power Tribunal stumbles upon those facts and draws the correct deductions Britain will find the way first, after all, to the queen of deterrent weapons and the prince of military mobility in the form of aircraft which ape neither the projectile nor the motor bus but are of the very essence of aerodynamics. Then we shall see the true answer to the inter-continental ballistic missile *and* to the call to put home-based forces in any part of the world within a day and without prepared runways.

Sir Roy Fedden's courageous book argues that no one in authority knows whither and no combination of existing authorities can frame a sound course with economy and speed. If that is so—and it would be quite in keeping with our history if it were—let us welcome the prospect of the Tribunal and pray that it will be composed not of clever men but men of insight, vision, wisdom, and courage. As a nation we are capable of turning the tables, *but only just!* We have done it before. But we have never done it *before enough*—not enough to deter the mighty from a war that, for reasons of pride, could not be stopped by reason: only by the strength we could not show and prove beforehand. Sir Roy Fedden has a way of being right when danger looms.

Leader of the Few. By Basil Collier. (Jarrolds.) 25s.

"What is truth?" asked Pontius Pilate, and indeed the same set of facts can appear very differently when seen against various backgrounds or from a different angle of view. Truth indeed has many aspects, and in order to establish the facts about anything it is necessary to adopt the procedure of a court of law, in which witnesses can be compelled to testify, and their evidence evaluated by cross-examination and an assessment of their credibility. Even then mistakes can occur.

These reflections are prompted by Mr. Basil Collier's book, which is described as the authorized biography of Air Chief Marshal Lord Dowding, Commander-in-Chief of Fighter Command from the summer of 1936 to the autumn of 1940. The author gives the impression that during the last years of his Service career Lord Dowding was constantly at loggerheads with the Air Staff about questions vital to the efficiency of his Command, and that Dowding, whose exceptional knowledge and experience are frequently stressed, was invariably right. The fact is that the Air Staff was just as anxious as was Dowding

to build up our fighter strength, to develop the chain of radar stations, and to do everything possible to prepare for the battle which we all knew was coming. It is also misleading to portray Lord Dowding as struggling to prevent the Air Staff from sending his fighter squadrons overseas to expend themselves in a vain attempt to avert the fall of France. The Air Staff were just as insistent as he was on the folly of such a course but, as is well known, Mr. Churchill was willing to take the greatest risks to help the French. In the end, the preservation of our fighter force for its vital task of defending this country was largely due to the tact and wisdom of Lord Newall, at that time Chief of the Air Staff.

In most of the controversies which the author describes, the decisions were not taken by the Air Staff but by the Cabinet. A Commander-in-Chief can, and indeed should, press whole-heartedly for what he regards as necessary for his command, but the Air Staff and the Government have to take a balanced view, and allocate our always slender resources in accordance with the prevailing strategic and political situation.

The legend that Lord Beaverbrook, prodded by the C.-in-C., Fighter Command, succeeded in bringing about, by some miraculous means at the eleventh hour, a greatly increased production of Hurricanes and Spitfires is here repeated. It would indeed have been a miracle had he been able to do so, since he took office in mid-May and the battle began in early August. Any increases above the planned figures were achieved almost entirely by raiding the production of spare parts and building whole aircraft out of them. The fact is that the planned production of our eight-gun fighters was reaching its peak at that time. If that had not been so, nothing that Lord Beaverbrook or the C.-in-C., Fighter Command, could have done would have made any noticeable difference.

The book is not free from oddities, such as the solemn description of Lord Dowding's discovery, by means of a trial laid on by him at Orfordness in the summer of 1940, that the 0.5-in. gun was ineffective against armoured aircraft. This had been discovered by the Air Ministry at least 18 months earlier, and the more powerful 20-mm. gun had been tested, decided upon, and put into production early in 1939.

The story of Lord Dowding's schooldays and his experiences in the Army, his term at the Staff College, and his transfer to the Royal Flying Corps, is well told, and the account of his conversion, after his retirement, to belief in spiritualism and theosophy is handled with sensibility and understanding.

ADDITIONS TO THE LIBRARY

(*Books for Reference in the Library only.)

GENERAL

Great Britain

The British. By Drew Middleton. (Secker and Warburg, 1957.) 25s.

A History of Punch. By R. G. G. Price. (Collins, 1957.) 30s.

How the City Works. By Sir Oscar Hobson. (News Chronicle, 1957.) 7s. 6d.

Roman Silchester. By George C. Boon. (Max Parrish, 1957.) 25s.

Personal Identity. By C. H. Rolph. (Joseph, 1957.) 15s.

Branch Lines. By O. S. Nock. (Batsford, 1957.) 25s.

The Greatness of Oliver Cromwell. By Maurice Ashley. (Hodder and Stoughton, 1957.) 25s.

Viscount Samuel. By John Bowle. (Gollancz, 1957.) 30s.

A History of the English Speaking Peoples. Vol. III. By Winston S. Churchill. (Cassell, 1957.) 30s.

Commonwealth and Empire

Let the Great Story be Told. By H. Wood-Jarvis. (Staples Press, 1957.) 15s. Presented by the publishers. (See review in this Journal.)

Sir Harry Johnston and the Scramble for Africa. By Roland Oliver. (Chatto and Windus, 1957.) 30s.

The Jewel in the Lotus. (Recollections of an Indian Political.) By B. J. Gould. (Chatto and Windus, 1957.) 25s.

Bitter Lemons. (Cyprus.) By Lawrence Durrell. (Faber and Faber, 1957.) 16s.

The Most Important Country. By John Connell. (Cassell, 1957.) 16s. Presented by the publishers. (See review in this Journal.)

Europe

As France Goes. By David Schoenbrun. (Gollancz, 1957.) 21s.

The Taxis of the Marne. By Jean Dutourd. (Secker and Warburg, 1957.) 16s.

The Austrian Odyssey. By Gordon Shepherd. (Macmillan, 1957.) 30s.

A Traveller in Rome. By H. V. Morton. (Methuen, 1957.) 25s.

U.S.S.R.

An Economic Geography of the U.S.S.R. By N. N. Baransky. (Foreign Languages Publishing House, Moscow, 1956.) 8s.

The Soviet Far East. By Erich Thiel. (Methuen, 1957.) 35s. Presented by the publishers. (See review in this Journal.)

The Outermost Frontier. By Helmut Pabst. (William Kimber, 1957.) 18s. Presented by the publishers. (See review in this Journal.)

German Rule in Russia. By Alexander Dallin. (Macmillan, 1957.) 60s.

Not By Bread Alone. By Vladimir Dudintzev. (Hutchinson, 1957.) 18s.

United States

The Age of Roosevelt. Vol. I. (The Crisis of the Old Order, 1919–1933.) By Arthur M. Schlesinger. (Heinemann, 1957.) 42s.

Less Than Kin. By William Clark. (Hamish Hamilton, 1957.) 16s.

Political

The Development of Political Theory. By Charles Vereker. (Hutchinson's University Library, 1957.) 10s. 6d.

The Meaning of Freedom. By Gilbert Murray and Others. (Pall Mall Press, 1956.) 3s. 6d.

The New Class. By Milovan Djilas. (Thames and Hudson, 1957.) 21s.

An Introduction to World Politics. (Third Edition.) By W. Friedmann, LL.D. (Macmillan, 1957.) 25s.

Is Peace Possible? By Kathleen Lonsdale. (Penguin Books, 1957.) 2s. 6d.

The Korea Knot. By Carl Berger. (Pennsylvania Press, 1957.) 40s.

An Atlas of World Affairs. By Andrew Boyd. (Methuen, 1957.) 15s.

Miscellaneous

The Wells of Ibn Sa'ud. By D. Van Der Meulen. (Murray, 1957.) 25s.

Gorkha. The Story of the Gurkhas of Nepal. By Lieut.-General Sir Francis Tuker. (Constable, 1957.) 45s.

Lost Cities. By Leonard Cottrell. (Robert Hale, 1957.) 18s.

The Spotted Deer. By J. H. Williams. (Rupert Hart-Davis, 1957.) 21s.

They Saw it Happen. Vol. I. (55 B.C.–1485.) By W. O. Hassell. (Blackwell, 1957.) 15s.

A Space Traveller's Guide to Mars. By Dr. I. M. Levitt. (Gollancz, 1957.) 16s. Presented by the publishers.

Half Safe. By Ben Carlin. (Andre Deutsch, 1955.) Presented by Colonel S. K. Gilbert.

The London Cage. By A. P. Scotland. (Evans, 1957.) 16s.

Disaster. (A Psychological Essay.) By Marthe Wolfenstein. (Routledge and Kegan Paul, 1957.) 23s.

The Black Cloud. By Fred Hoyle. (Heinemann, 1957.) 15s.

Industrial Relations Handbook. By Ministry of Labour. (H.M.S.O., 1953.) 4s. 6d.

Functions of a Personnel Department. By G. R. Moxon. (Institute of Personnel Management, 1951.) 3s.

Staff Management. By F. W. Lawe. (Institute of Personnel Management, 1944.) 3s.

Propaganda. By Lindley Fraser. (Oxford, 1957.) 7s. 6d.

Fall-Out. (Ed.) Antoinette Pirie. (MacGibbon & Kee, 1957.) 12s. 6d.

Mischief in Patagonia. By H. W. Tilman. (Cambridge, 1957.) 21s.

Service

The Great Deterrent. By Sir John Slessor. (Cassell, 1957.) 30s. Presented by the publishers.

Nuclear Weapons and Foreign Policy. By Henry A. Kissinger. (Harper Bros., New York, 1957.) 40s.

Limited War. The Challenge to American Strategy. By Robert E. Osgood. (University of Chicago Press, 1957.) 37s. 6d.

Defense and Diplomacy. The Soldier and the Conduct of Foreign Relations. By Alfred Vagts. (King's Crown Press New York, 1956.) 70s. Presented by the publishers. (See review in this Journal.)

SOLDIERS AND SCHOLARS. Military Education and National Policy. By John W. Masland and Laurence I. Radway. (Princeton University Press, 1957.) 60s. Presented by the publishers. (See review in this JOURNAL.)

THE SOLDIER AND THE STATE. By Samuel P. Huntington. (Harvard University Press, 1956.) 60s. Presented by the publishers. (See review in this JOURNAL.)

THE COMMANDER. By Sir Ian Hamilton: Edited by Major A. Farrar-Hockley, D.S.O., M.C. (Hollis and Carter, 1957.) 15s.

PROFIT AND POWER. (The Anglo-Dutch Wars.) By Charles Wilson. (Longmans, 1957.) 25s.

THE WAR IN THE MEDITERRANEAN, 1803–1810. By Piers Mackesy. (Longmans, 1957.) 45s.

THE WESTERN FRONT, 1914. By Army Historical Section, Ottawa. (Directorate of Military Training, Ottawa, 1957.)

A FLOOD OF MUTINY. By Valentine Dyall. (Hutchinson, 1957.) 15s.

UNDISCOVERED ENDS. By J. S. Poole. (Cassell, 1957.) 18s.

THE CAT. A True Story of Espionage. By Count Michael Soltikow. (MacGibbon and Kee, 1957.) 18s.

NAVAL

EXTRAORDINARY SEAMAN. By J. P. W. Mallalieu. (MacGibbon and Kee, 1957.) 15s.

LONELY COMMAND. The Epic Story of the *Emden*. By A. A. Hoehling. (Cassell, 1957.) 15s. Presented by the publishers. (See review in this JOURNAL.)

H.M.S. WARSPITE. By S. W. Roskill. (Collins, 1957.) 25s.

ARK ROYAL, 1939–1941. By Rear-Admiral Sir William Jameson, K.B.E., C.B. (Rupert Hart-Davis, 1957.) 30s. Presented by the publishers. (See review in this JOURNAL.)

THE HISTORY OF THE BRITISH NAVY. By Michael Lewis. (Pelican Books, 1957.) 3s. 6d.

THE R.N.V.R. By J. Lennox Kerr and W. Granville. (Harrap, 1957.) 21s. Presented by the publishers. (See review in this JOURNAL.)

THE ROCK. By Warren Tute. (Cassell, 1957.) 16s. Presented by the publishers.

DAY OF INFAMY. Pearl Harbour. By Walter Lord. (Longmans, 1957.) 18s.

MIDWAY. The Battle that Doomed Japan. By Mitsuo Fuchida and Masatake Okumiya. (Hutchinson, 1957.) 25s.

SHARKS AND LITTLE FISH. By Wolfgang Ott. (Hutchinson, 1957.) 15s.

ARMY

*TWENTY-SECOND FOOTSTEPS, 1849–1914. (The 22nd Cheshire Regiment.) By Arthur Crookenden. (The Regiment, 1956.) Presented by the Regiment.

VIGNETTES FROM INDIAN WARS. By Lieut.-General Sir George MacMunn. (Sampson Low, 1935.) 12s. 6d.

OFFICIAL HISTORY OF THE INDIAN ARMED FORCES IN THE SECOND WORLD WAR. The North African Campaign, 1940–43. By Bisheshwar Prasad. (Longmans, 1956.) 50s. Presented by the publishers. (See review in this JOURNAL.)

OFFICIAL HISTORY OF THE INDIAN ARMED FORCES IN THE SECOND WORLD WAR. Expansion of the Armed Forces and Defence Organization. By Bisheshwar Prasad. (Longmans, 1956.) 45s. Presented by the publishers. (See review in this JOURNAL.)

THE HISTORY OF THE INDIAN MOUNTAIN ARTILLERY. By Brigadier-General C. A. L. Graham. (Gale and Polden, 1957.) 30s. Presented by the publishers. (See review in this JOURNAL.)

SECOND KING EDWARD VII'S OWN GOORKHA RIFLES CENTENARY OF THE SIEGE OF DELHI, 1857. By General Sir Charles Reid. (Private, 1957.) Presented by The Regimental Association.

CASSINO. Portrait of a Battle. By Fred Majdalany. (Longmans, 1957.) 21s. Presented by the publishers. (See review in this JOURNAL.)

GUERILLA SURGEON. By Lindsay Rogers. (Collins, 1957.) 18s.

THESE MEN ARE DANGEROUS. The Special Air Service at War. By D. I. Harrison. (Cassell, 1957.) 16s.

THE SLEDGE PATROL. By David Howarth. (Collins, 1957.) 15s.

I WAS IN NOAH'S ARK. By Francis Reid. (Chambers, 1957.) 8s. 6d. Presented by the publishers.

THE LAST MONSOON. By Oliver Moxon. (Robert Hale, 1957.) 15s. Presented by the publishers.

AIR

BRITAIN'S AIR SURVIVAL. By Sir Roy Fedden. (Cassell, 1957.) 11s. 6d. Presented by the publishers. (See review in this JOURNAL.)

LEADER OF THE FEW. (Lord Dowding.) By Basil Collier. (Jarrolds, 1957.) 25s. Presented by the publishers. (See review in this JOURNAL.)

FLIGHT 777. By Ian Colvin. (Evans, 1957.) 16s.

THE AIR. Conquest of Space and Time. By Edgar B. Schieldrop. (Hutchinson, 1957.) 30s.

FLIGHT TODAY. By J. L. Nayler and E. Ower. (Oxford University Press, 1957.) 12s. 6d. Presented by the British Council.

R.A.F. BIGGIN HILL. By Graham Wallace. (Putnam, 1957.) 21s.

101 NIGHTS. By Ray Ollis. (Cassell, 1957.) 15s.

AIRPOWER. The Decisive Force in Korea. By James T. Stewart. (Van Nostrand, New York, 1957.) 45s.

WOMAN PILOT. By Jackie Moggridge. (Michael Joseph, 1957.) 16s.

THE MILLIONTH CHANCE. (The R.101.) By James Leasor. (Hamish Hamilton, 1957.) 18s.

RECOMMENDED ARTICLES

Future War : Defence Policy

First Things First.	*The Times*. 31st July, 1957.
The Military Consequences of Mr. Sandys ...	*The Economist*. 10th August, 1957.
War without Suicide	*The Economist*. 24th August, 1957.
Nuclear Weapons and Policy	*The Times*. 29th August, 1957.
Dangers of Nuclear Stalemate	*The Times*. 30th August, 1957.
Unlimited Confusion over Limited War. ...	*Air University Quarterly Review*. Spring, 1957.
Three Questions on Defence	*Round Table*. September, 1957.
Britain's Changing Strategic Position	*International Affairs*. October, 1957.
Defence Policy : Positive or Negative ? ...	*Air Power*. Autumn, 1957.
Nuclear Weapons: "Haves" and "Have Nots."	*Foreign Affairs*. October, 1957.

The Services

Naval Aviation in the Korean War.	*U.S. Naval Institute Proceedings*. July, 1957.

Carrier Operations in Korea.	*U.S. Naval Institute Proceedings.* July, 1957.
The Soviet Union and its Submarine Forces ...	*U.S. Naval Institute Proceedings.* July, 1957.
Capital Ship for an Air Navy	*U.S. Naval Institute Proceedings.* September, 1957.
The Historical Role of the Army	*Military Review.* June, 1957.
The Problems of Cold War Operations	*Army Quarterly.* July, 1957.
Pay and Service	*The Times.* 4th September, 1957.
The Division in Nuclear War	*R.E. Journal.* September, 1957.
The Army and Strategic Mobility	*Military Review.* August, 1957.
Parachuting in the Army Today	*Air Power.* Autumn, 1957.
Korea : An Opportunity Lost	*Air University Quarterly Review.* Spring, 1957.
What is an Air Power ?	*Air University Quarterly Review.* Spring, 1957.
Missiles Up to Date	*Air Power.* Autumn, 1957.
Missiles or Supersonic Bombers	*Aeroplane.* 20th September, 1957.
Military History—Pro and Con....	*Military Affairs.* Summer, 1957.
Airships and the Submarine Menace	*Aeroplane.* 18th October, 1957.
Some Elements of Mobility.	*Army Quarterly.* October, 1957.
Is There a Future in Amphibious Operations ?	*Military Review.* September, 1957.

Miscellaneous

The Persian Gulf	*Army Quarterly.* July, 1957.
Tankers of the Future	*The Economist,* 24th August, 1957.
Arabia and the West	*Round Table.* September, 1957.
A Soldier's Apologia. (The Suez Despatch.) ...	*The Economist.* 21st September, 1957.
Communism in China. I and II	*The Times.* 2nd–3rd October, 1957.
Britain and America at Loggerheads.	*Foreign Affairs.* October, 1957.
Mao and Moscow.	*Foreign Affairs.* October, 1957.

ALL THE ABOVE ARTICLES ARE AVAILABLE IN THE LIBRARY.

McCorquodale, London, S.E.

JOURNAL

OF THE

Royal United Service Institution

WHITEHALL, S.W.1

PUBLISHED BY AUTHORITY OF THE COUNCIL

Authors alone are responsible for the contents of their respective papers, which do not necessarily reflect official policy or opinion in any way.

VOL. CII

FEBRUARY TO NOVEMBER, 1957

LONDON:
ROYAL UNITED SERVICE INSTITUTION
WHITEHALL, LONDON, S.W.1

—

[*Entered at Stationers' Hall. All rights reserved.*]

McCorquodale, London, S.E.

INDEX, 1957

Page

AIR Operations in Malaya. (Group Captain K. R. C. Slater, C.B.E., A.F.C., R.A.F. August) 378

AIR Supremacy, The Sea, Key to ? (Squadron Leader L. W. Davies, F.R.G.S., R.A.F. August) 354

AMERICAN Problems of Forces and Organization. (W. Barton Leach. February) 29

ARAB Countries and the Situation in the Middle East. (*Lecture.*) (Lieut.-General Sir John Glubb, K.C.B., C.M.G., D.S.O., O.B.E., M.C. February) 1

ARMY Cadet Force, The. (Captain W. F. L. Newcome, O.B.E., T.D. November) 549

ASCENT of Kangchenjunga. (*Lecture.*) (Captain H. R. A. Streather, The Gloucestershire Regiment. May) 145

AUSTRALASIA. (International Situation. May) 243

BATTLE of Plassey, 1757, The. (Major E. O'Ballance. August) 363

BLAKE and De Ruyter. (Commander W B. Rowbotham, R.N. November) 571

CADET Force, The Army. (Captain W. F. L. Newcome, O.B.E., T.D. November) 549

CAMPAIGN in North-West Europe, The. ("Musketeer.")
Part I. June–September, 1944. (May) 197
Part II. September, 1944—May, 1945. (August) 339

CENTENARY of the International Signal Book. (Commander Hilary Mead, R.N., Retd. August) 334

CHANGING of the Guard, The. (International Situation. November) ... 580

CLOWDISLEY Shovel's Last Passage, Sir. (G. J. Marcus. November)... ... 540

COLD War, Staff Work for the. (*Lecture.*) (Mr. Donald McLachlan. May) 170

CRIMEA, Letters from the. (Assistant-Surgeon A. H. Taylor.
Part I. February) 79
Part II. (May) 232
Part III. (August) 399
Part IV. (November) 564

CYPRUS. (International Situation. November) 581

ENGINEERS, Technicians, and the Army. (Major D. T. W. Gibson, M.B.E., Royal Signals. February) 44

EUROPE. (International Situation. May) 239
(August) 407

FAR East (International Situation. August) 410

FATIGUE, On. (Major-General B. T. Wilson, C.B., D.S.O. November) ... 483

FREE Trade Area, The. (International Situation. November) 583

FRENCH North Africa. (International Situation. August) 408

HUNDRED Years Ago, One. (August) 303

IDEALS the West is Defending. (The Very Rev. The Dean of St. Paul's. May) 160

INDIAN Mutiny and After. ("Hafiz." November) 556

KANGCHENJUNGA, The Ascent of. (*Lecture.*) (Captain H. R. A. Streather, The Gloucestershire Regiment. May) 145

LONDON, The Military Privileges of the City of. (Lieut.-Colonel Donovan Jackson, O.B.E. February) 75

	Page
MALAYA, Air Operations in. (Group Captain K. R. C. Slater, C.B.E., A.F.C., R.A.F. August)	378
MALAYA and Singapore. (International Situation. November)	582
MARLBOROUGH'S Wars. (Major E. W. Sheppard, O.B.E., M.C., Retd. Part I. February)	61
Part II. (May)	220
MIDDLE East, Arab Countries and the Situation in. (*Lecture.*) (Lieut.-General Sir John Glubb, K.C.B., C.M.G., D.S.O., O.B.E., M.C. February) ...	1
MIDDLE East. (International Situation. February)	86
(May)	241
(August)	409
MIDDLE East, Oil in the. (*Lecture.*) (Mr. R. G. Searight. February)... ...	15
MISSILE Weapons and the Future. (Admiral E. Biörklund, Royal Swedish Navy, Retd. November)	500
NAVAL Operations in the Red Sea, 1940–41. (Captain S. W. Roskill, D.S.C., R.N., Retd. May)	211
NEW Zealand Army, The. (Major-General Sir Howard Kippenberger, K.B.E., C.B., D.S.O., E.D., LL.D. February)	66
NUCLEAR Age, Strategy in the. (Michael Howard. November)	473
OIL in the Middle East. (*Lecture.*) (Mr. R. G. Searight. February) ...	15
PATTERN for Limited (Nuclear) War. Part I. (Captain G. C. Wynne, November)	488
PEDESTRIAN Sailor. ("C. H. W." May)	226
PLASSEY, 1757, The Battle of. (Major E. O'Ballance. August) ...	363
POLICY and Grand Strategy. (Admiral E. Biörklund, Royal Swedish Navy, Retd. May)	183
PREVENTION of War, The. (Admiral Sir Reginald A. R. P. Ernle-Erle-Drax, K.C.B., D.S.O. August)	372
PRISONER of the Confederates, A. (Air Vice-Marshal W. M. Yool, C.B., C.B.E., R.A.F. November)	510
QUARTER-BLOKE. (Major Reginald Hargreaves, M.C. November)	531
RECRUITING to the Regular Forces. (Lieut.-Colonel C. D. Waters, O.B.E., R.E. February)	55
RED Sea, 1940–41, Naval Operations in the. (Captain S. W. Roskill, D.S.C., R.N. May)	211
SOUTH Africa. (*Lecture.*) (Mr. Colin Legum. August)	307
SOUTH East Asia. (International Situation. February)	88
SOVIET Union, The. (International Situation. August)	408
STAFF Procedures in the Field. (Major A. L. King-Harman, Royal Artillery. May)	192
STAFF Work for the Cold War. (*Lecture.*) (Mr. Donald McLachlan. May)...	170
STRATEGY in the Nuclear Age. (Michael Howard. November)	473
SUMMARY Punishment for Women. (Colonel J. M. Cowper, T.D. May) ...	216
SYRIA. (International Situation. November)	580
TRENCH Gascoigne First Prize Essay, 1956. (Wing Commander J. E. T. Haile, R.A.F., Retd. November)	516
ULTIMATUM—The Story of a Submarine. (Peter Harvey. August)... ...	388
UNION Jack Services Clubs, The. (Admiral Sir William James, G.C.B. August)	396

Page

United States Naval Academy, The. (*Lecture.*) (Admiral Walter F. Boone, U.S.N. November) 463
War, Pattern for Limited (Nuclear). Part I. (Captain G. C. Wynne. November) 488
Women, Summary Punishment for. (Colonel J. M. Cowper, T.D. May)... 216
Youth Today and Tomorrow. (*Lecture.*) (Brigadier Sir John Hunt, C.B.E., D.S.O., D.C.L., LL.D. August) 322

FRONTISPIECES

Memorial Above the Public Entrance to the Museum, Royal United Service Institution. (February)
The Ascent of Kangchenjunga. (May)
One Hundred Years Ago. (August)
A Corner of the Banqueting Hall, Royal United Service Institution. (November)

MISCELLANEOUS

The International Situation. (A. K. Chesterton, M.C., Austen Brooks, and Aidan Mackey.)
Middle East. (February) 86
South East Asia. (February) 88
Europe. (February) 89
Europe. (May) 239
Middle East. (May) 241
Australasia. (May) 243
Europe. (August) 407
The Soviet Union. (August) 408
French North Africa. (August) 408
Middle East. (August) 409
Far East. (August)... 410
The Changing of the Guard. (November) 580
Syria. (November) 580
Cyprus. (November) 581
Malaya and Singapore. (November) 582
The Free Trade Area. (November) 583
Correspondence 91, 244, 411, 585
General Service Notes 97, 246, 415, 589
Navy Notes... ... ... 100, 250, 417, 591
Army Notes... ... ... 108, 257, 425, 596
Air Notes 115, 263, 434, 604
Reviews of Books... ... ... 120, 267, 441, 607
Additions to the Library 141, 287, 458, 624
Report of Anniversary Meeting 291
Secretary's Notes ... ... i, vii, xi, xv

AUTHORS

Biörklund, Admiral E., Royal Swedish Navy, Retd.
(Policy and Grand Strategy. May) 183
(Missile Weapons and the Future. November) 500
Boone, Admiral Walter F., U.S.N. (The United States Naval Academy. (*Lecture.*) November) 463

	Page
BROOKS, Austen. (International Situation. August)	406
" C.H.W." (Pedestrian Sailor. May)	226
CHESTERTON, A. K., M.C. (International Situation. February)	86
(May)	239
COWPER, Colonel J. M., C.B.E. (Summary Punishment for Women. May)	216
DAVIES, Squadron Leader L. W., F.R.G.S., R.A.F. (The Sea—Key to Air Supremacy? August)	354
DEAN of St. Paul's, The Very Rev. (Ideals the West is Defending. (*Lecture.*) May)	160
ERNLE-ERLE-DRAX, Admiral Sir Reginald A. R. P., K.C.B., D.S.O. (The Prevention of War. August)	372
GIBSON, Major D. T. W., M.B.E., Royal Signals. (Engineers, Technicians, and the Army. February)	44
GLUBB, Lieut.-General Sir John, K.C.B., C.M.G., D.S.O., O.B.E., M.C. (Arab Countries and the Situation in the Middle East. (*Lecture.*) February)	1
" HAFIZ." (The Indian Mutiny and After. November)	556
HAILE, Wing Commander J. E. T., R.A.F. Retd. (Trench Gascoigne First Prize Essay, 1956. November)	516
HARGREAVES, Major Reginald, M.C. (Quarter-Bloke. November)	531
HARVEY, Peter. (Ultimatum—The Story of a Submarine. August) ...	388
HOWARD, Michael. (Strategy in the Nuclear Age. November)	473
HUNT, Brigadier Sir John, C.B.E., D.S.O., D.C.L., LL.D. (Youth Today and Tomorrow. (*Lecture.*) August)	322
JACKSON, Lieut.-Colonel Donovan, O.B.E. (The Military Privileges of the City of London. February)	75
JAMES, Admiral Sir William, G.C.B. (The Union Jack Services Clubs. August)	396
KING-HARMAN, Major A. L., Royal Artillery. (Staff Procedures in the Field. May)	192
KIPPENBERGER, Major-General Sir Howard, K.B.E., C.B., D.S.O., E.D., LL.D. (The New Zealand Army. February)	66
LEACH, W. Barton. (American Problems of Forces and Organization. February)	29
LEGUM, Mr. Colin. (South Africa. (*Lecture.*) August)	307
MACKEY, Aidan. (International Situation. November)	580
MARCUS, G. J. (Sir Clowdisley Shovel's Last Passage. November)	540
MCLACHLAN, Mr. Donald. (Staff Work for the Cold War. (*Lecture.*) May)	170
" MUSKETEER." (The Campaign in North-West Europe	
Part I. June–September, 1944. May	197
Part II. September, 1944–May, 1945. August)	339
MEAD, Commander Hilary P., R.N. Retd. (Centenary of the International Signal Book. August)	334
NEWCOME, Captain W. F. L., O.B.E., T.D. (The Army Cadet Force. November)	549
O'BALLANCE, Major E. (The Battle of Plassey, 1757. August)	363
ROSKILL, Captain S. W., D.S.C., R.N. Retd. (Naval Operations in the Red Sea, 1940–41. May)	211
ROWBOTHAM, Commander W. B., R.N. (Blake and De Ruyter. November)	571
SEARIGHT, Mr. R. G. (Oil in the Middle East. (*Lecture.*) February) ...	15

Page

SHEPPARD, Major E. W., O.B.E., M.C., Retd. (Marlborough's Wars.
Part I. February 61
Part II. May) 220
SLATER, Group Captain K. R. C., C.B.E., A.F.C., R.A.F. (Air Operations in Malaya. August) 378
STREATHER, Captain H. R. A., The Gloucestershire Regiment. (The Ascent of Kangchenjunga. (*Lecture.*) May) 145
TAYLOR, Assistant-Surgeon Arthur Henry. (Letters from the Crimea.
Part I. February 79
Part II. May 232
Part III. August 399
Part IV. November) 564
WATERS, Lieut.-Colonel C. D., O.B.E., R.E. (Recruiting to the Regular Forces. February) 55
WILSON, Major-General B. T., C.B., D.S.O. (On Fatigue. November) ... 483
WYNNE, Captain G. C. (Pattern for Limited (Nuclear) War. Part I, November) 488
YOOL, Air Vice-Marshal W. M., C.B., C.B.E., R.A.F., Retd. (A Prisoner of the Confederates. November) 510

THE OFFICERS' PENSIONS SOCIETY

President : General The Lord Jeffreys, K.C.B., K.C.V.O., C.M.G.
Chairman : Admiral Sir Charles Daniel, K.C.B., C.B.E., D.S.O.
Vice-Chairman :
Vice-Admiral H. T. Baillie-Grohman, C.B., D.S.O., O.B.E.

Increases in Officers' Widows' Pensions from December, 1952 ; and in the retired pay of some 8,250 officers from April 1st, 1954; also **the 1956 Increases for all retired** Officers over 60, and for widows were also influenced by the Society's activities.

This Society was founded in 1946, and its *objects are* to procure the improvement and increase of pensions, retired pay, and other benefits of officers of the three Armed Services, and of their widows and dependants ; and to promote in every way their interest and welfare. Also to assist and advise members of the Society in connection with pensions and retired pay, and to represent their individual problems.

It is the only body comprising officer members from all three Services whose policy is controlled solely by its members. It is not in competition with the Association of Retired Naval Officers, the Officers' Association or other Service associations, but is complementary to them and works in co-operation with them.

Membership is open to retired officers, to dependants of serving or retired officers, and to widows and dependants of deceased officers of the Armed Forces. Membership now exceeds 12,000 which number is increasing every day.

The annual subscription is £1 for all, except widows and dependants of deceased officers, for whom it is 10s.

Full particulars and forms of application can be obtained from :—
The General Secretary, The Officers' Pensions Society, Ltd., 171, Victoria St., London, S.W.1. *Telephone :* VICtoria 0853.

WHITEHALL PALACE
and the
EXECUTION OF KING CHARLES I

The brief history of the famous Banqueting House of the old Whitehall Palace, built for James I, by Inigo Jones, includes the Execution and Burial of King Charles I, and is taken from the original by the late Reverend Canon Edgar Sheppard, K.C.V.O., D.D., Sub-Dean of His Majesty's Chapels Royal, 1884-1921.

Edited and annotated by the late Captain E. Altham, C.B., R.N., while Secretary of the Royal United Service Institution.

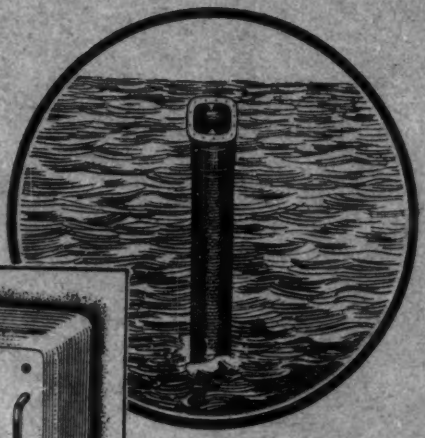
Price 1s. 0d. *Post Free*

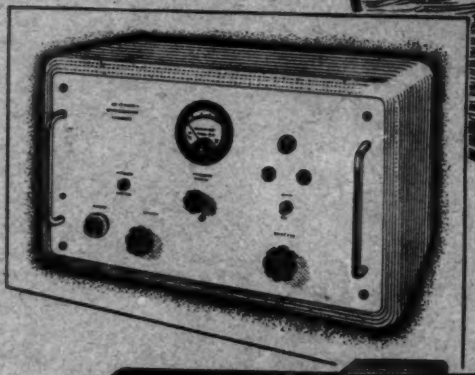
Orders to the Secretary:

Royal United Service Institution, Whitehall, S.W.1

SUBMARINE PERISCOPES

of BINOCULAR and MONOCULAR types, also other designs of Periscope for a wide range of uses.





ELECTRONIC INSTRUMENTS

High Gain Frequency Selective Amplifiers, Accelerometers, Calibrated Attenuators, etc.

HAND-HELD RANGEFINDERS

for use at short ranges, for such purposes as river surveying, bridge construction, ships' station-keeping, mooring of ships, etc.

BARR & STROUD LTD.

ANNIESLAND, GLASGOW, W.3. 15, Victoria Street, London, S.W.1.

"The R.U.S.I. Journal" is published in February, May, August, and November of each year.

Registered for Transmission to Canada by Canadian Magazine Post.